MODERN PACKAGING

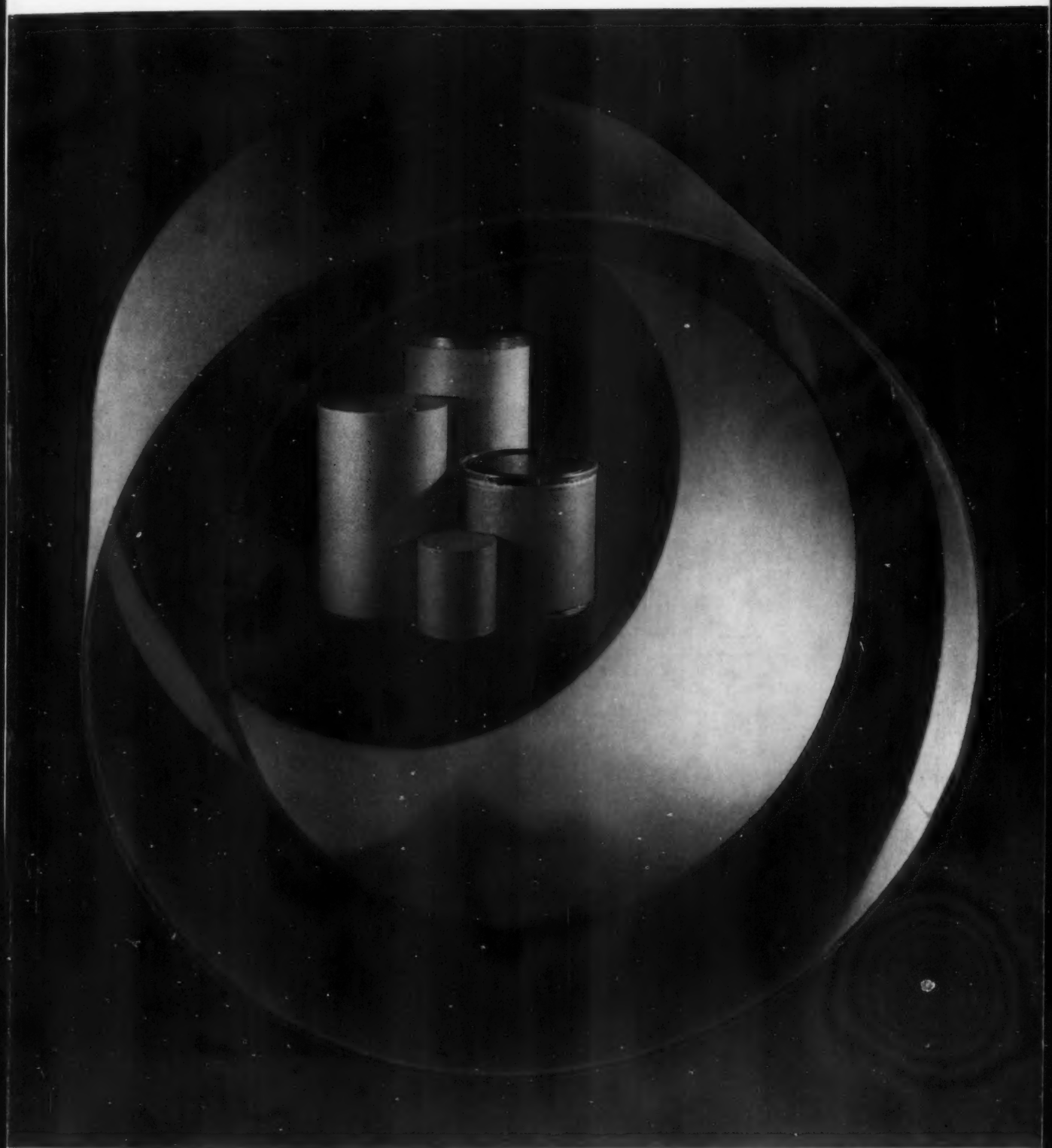
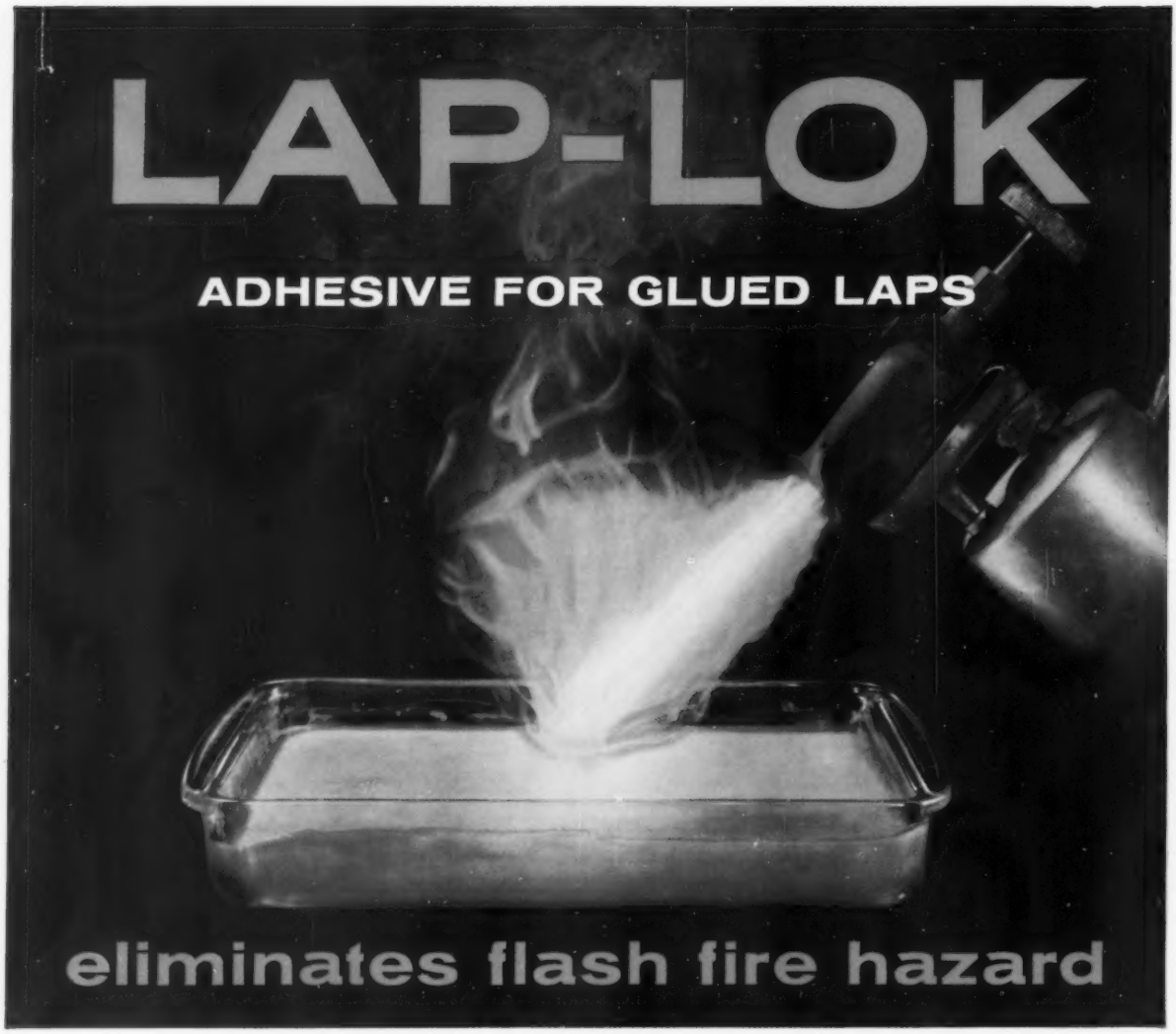


PHOTO FOR MODERN PACKAGING BY TIETGENS

Fibre drums: workhorse for industry | **December 1958**

COMPLETE CONTENTS p. 2



LAP-LOK is a resin adhesive for glued laps that contains no flammable solvent. No benzene. No toluene. Completely safe. Worthwhile insurance against flash fire explosions.

LAP-LOK has other important advantages. It dries to a clear transparent odorless film. Leaves no unsightly squeeze-out. Too, LAP-LOK safeguards against heat failure. Withstands blistering summer boxcar heat when many adhesives in common use would fail.

LAP-LOK has been in trouble-free use for over four years. Wouldn't a point by point comparison with the adhesive you're now using make good sense? We'll gladly send a sample and data. Write or telephone your nearest National office.

RESYNS® National ADHESIVES

NATIONAL STARCH PRODUCTS INC.

750 Third Avenue, New York 17 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11

just wonderful!

. . . and looks it—in Alcoa Wrap aluminum packaging

Does ALCOA® WRAP foil packaging help sell the new hair waving magic of this superfine permanent? Caryl Richards, Inc. thinks so. They had Tower Container Corporation and ALCOA create this golden box to reflect the special excellence of *just wonderful!* quality, and spark more sales to salon customers.

ALCOA's exclusive pure aluminum Rolled-on, Pilferproof caps keep the tested-formula waving lotion pure and full strength, assuring the hairdresser and her patron a fresh, ready-to-use bottle of waving lotion each time a bottle of Caryl Richards' *just wonderful!* is opened.

Does your packaging need improving? ALCOA teams with America's top converters to assure you the best facilities, know-how and service—all along the line. For full information, call your ALCOA salesman, or write to: ALUMINUM COMPANY OF AMERICA, 1649-M Alcoa Building, Pittsburgh 19, Pa.

ALCOA THEATRE
Fine Entertainment
Alternate Monday Evenings

You're always ahead with Alcoa
. . . greatest name in aluminum

MODERN PACKAGING®

December 1968
Vol. 32 No. 4

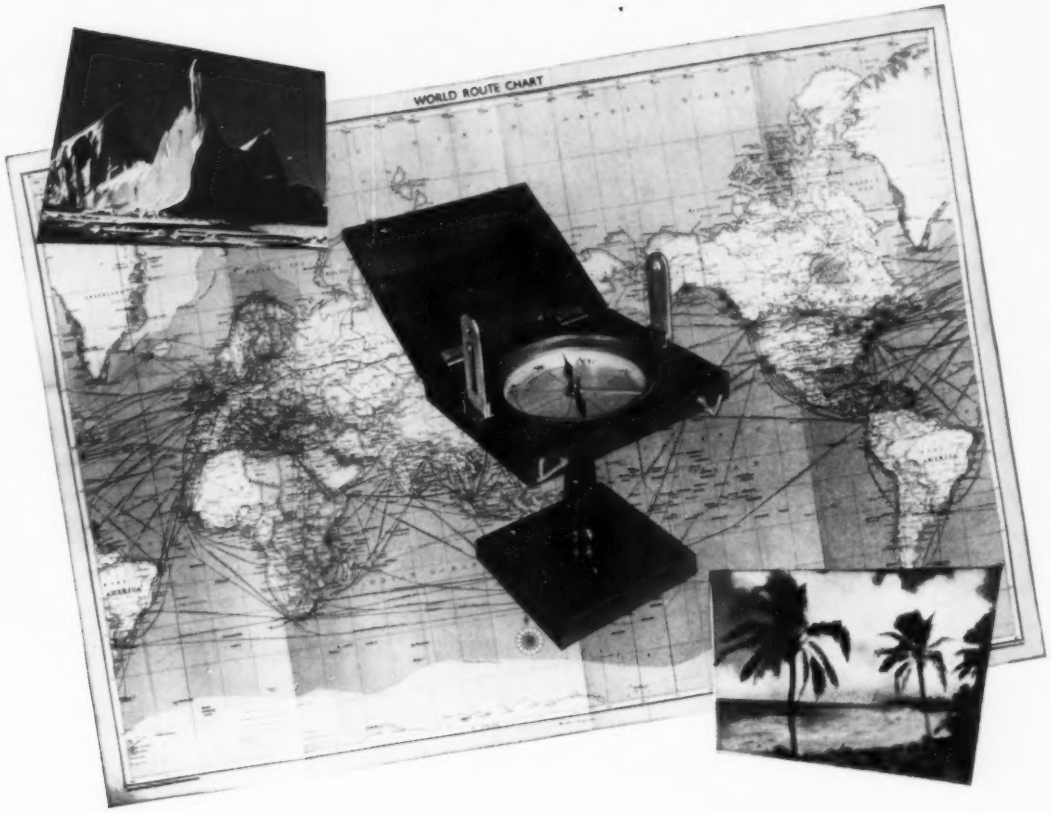
Production methods

Technical

Departments

Modern Packaging Executive and Editorial Offices, 575 Madison Avenue, New York 22, N.Y.
Please mail all correspondence, change of address notices, subscription orders, etc., to the above address.

Modern Packaging issued monthly except November when issued semi-monthly by Modern Packaging Corp. and Packaging Catalog Corp. at Emmett St., Bristol, Conn. Second-class mail privilege authorized at Bristol, Conn. Subscription rates (including Modern Packaging Encyclopedia Issue), payable in U.S. currency; In U.S., its possessions, and Canada, 1 year $7, 2 years $12, 3 years $17; all other countries, 1 year $20, 2 years $35, 3 years $50. Single copies 75 cents each (Show Issue, $1; Encyclopedia Issue, $3) in U.S., its possessions, and Canada; all other countries $2 (Show Issue, $2.50; Encyclopedia Issue, $6).



HERE, THERE AND EVERYWHERE

Through world-wide connections we keep our finger firmly on the pulse of packaging: on merchandising trends and techniques, on wrapping methods and machinery. This continuous stream of information, coupled with our wide experience, enables our scientists to *anticipate* packaging needs.

MXXT cellulose film — *the most moistureproof packaging film in the world* — is one result of our extensive research and development programme. Another is our range of polythene-coated cellulose films, ideal for the "visible" packaging of liquids, powders and other "awkward" products, and for vacuum- and gas-packaging. We also make a wide variety of polythene films, and are able to supply non-moistureproof cellulose film up to 81 inches wide.

We invite you to get to know the many types of transparent films we produce. Write to us today.

BCL

BRITISH CELLOPHANE LIMITED

Henrietta House, 9 Henrietta Place, London, W.1, England.

"Cellophane" is the registered trade mark of British Cellophane Limited in the following countries: The United Kingdom, Jersey and Guernsey, Commonwealth of Australia, Ceylon, Cyprus, Denmark, Eire, Federation of Malaya, Federation of Rhodesia and Nyasaland, Gibraltar, Hong Kong, Iceland, India, Jamaica, New Zealand, Pakistan, Singapore, Trinidad and Tobago, Union of South Africa.

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MODERN PACKAGING®

Packaging can make the difference

Alert critics of marketing complain that the growing similarity of competing products makes it more difficult to be persuasive in advertising, particularly of foods. Lacking product differences to promote, advertising attempts to condition consumers' minds to imagine superiorities that don't exist. But consumers learn they can switch brands—taking advantage of deals, premiums and other price-cutting devices—without sacrificing quality or value.

Says Charles Whittier, former Young & Rubicam plans-board chairman: "A product's strength should lie, not in its similarity to kindred products, but in its difference. Strong consumer preference will be formed because of difference. When no discernible difference exists, the consumer's measure of value becomes price."

In similar vein, George J. Perkins, Chicago supermarket merchandising consultant, told national-brand manufacturers that on price alone a private brand will inevitably threaten nationally advertising ones. "I believe it is safe to say," he warned, "that although a private brand will very seldom build a market, it can, because of carelessness on the part of the advertised-brand manufacturer, absorb a percentage of an established market on price and price alone."

Both men, we feel, fail to emphasize the contribution of superior packaging to product difference. Here, in fact, is packaging's big opportunity.

The welter of recent improvements and developments in packaging materials and techniques may offer many packagers the one chance—aside from risky price cutting—to best their competition by creating a new and stronger consumer appeal. What may appear to be an almost overpowering confusion of new films and other plastics, boards, papers, glass and metal containers, closures and adhesives is in reality a rich resource of materials and combinations of materials out of which to create the only practical difference—aside from price—between many products.

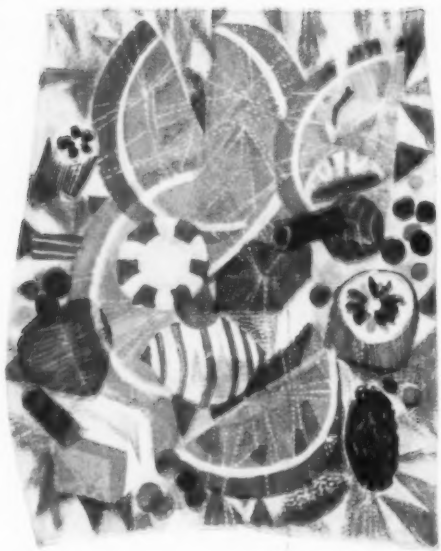
Here, too, should be the promotional angle that advertisers now complain they can't find because of lack of product difference. The better protection, longer life and greater convenience created by the right combination of packaging design, materials and manufacture constitute consumer-benefit advantages that too often are not spelled out in selling copy.

"Consumer experience," Mr. Whittier confesses, "is becoming more persuasive than consumer advertising." The package is an experience, and a very personal one, to every consumer. Let's make the most of it.

The Editors

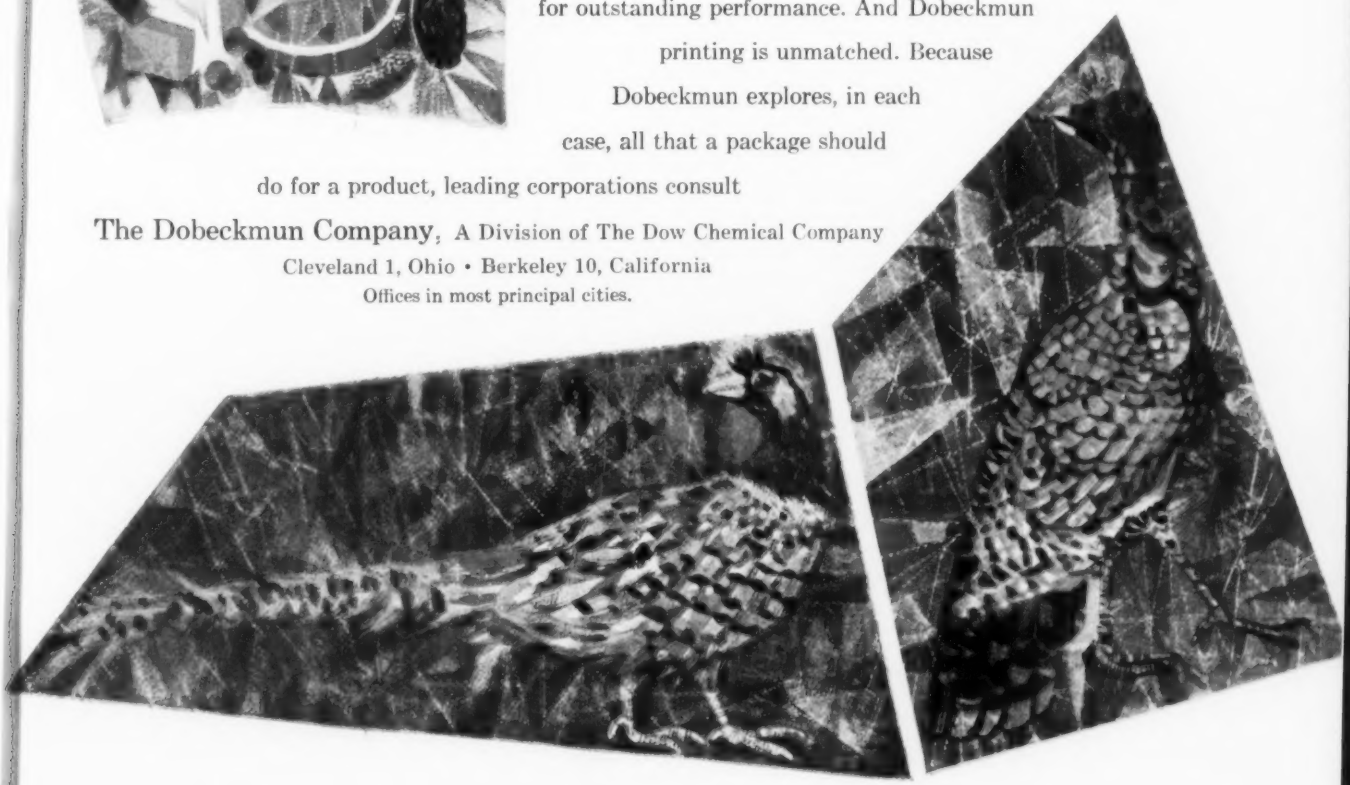
The majority of the customers of the Maine Potato Bag Company insist on Dobeckmun polyethylene for several reasons. H. N. Aldrich, Sales Manager, says: "None can compare with Dobeckmun. Most of all we like the printing and the quality of Dobeckmun's polyethylene bag."

Packages for performance...



Dobeckmun polyethylene wraps up a performance every time. This versatile, practical packaging film sells to the eye . . . promotes . . . protects. For teddy-bears and tablecloths, bonbons, bedspreads and poultry, too, its sparkling clarity presents your product at its best, adds luster to your brand name and your selling message. Every one of the varied packaging materials engineered by Dobeckmun is rigidly controlled from the original design to the finished product for outstanding performance. And Dobeckmun printing is unmatched. Because Dobeckmun explores, in each case, all that a package should do for a product, leading corporations consult

The Dobeckmun Company, A Division of The Dow Chemical Company
Cleveland 1, Ohio • Berkeley 10, California
Offices in most principal cities.



CROWN...only source for lug caps with LIVE RUBBER RINGS

This exclusive Crown combination gives packers a closure that quickly, completely seals in product quality on the packing line and in homes of users. *Live rubber best withstands* live steam temperatures . . . *will reseal again and again* . . . and Crown live rubber liners *will not stick to glass.*

Crown developed a special glass finish that permits easy cap application and prevents any backing off of the cap as in some types of finishes. When the Crown lug is applied to this finish, you have a mechanical as well as a vacuum seal. Crown is ready to meet all your closure needs.

for cans • closures • crowns • machinery **CROWN**

CROWN CORK & SEAL COMPANY, INC., 9300 Ashton Road, Philadelphia 36, Pa.

Riegel Announces

NEW TRI-PLEX PAPER

for Semi-Rigid Bags

Ask your bag supplier to show you this new packaging development

(RIEGEL DOES NOT MAKE BAGS)

Tri-plex is an unusual combination of three special Riegel packaging papers laminated together to form one sheet with superior rigidity for high speed production of semi-rigid bags. It's a brand new Riegel development, ideal for things like cookies and crackers. Makes a fine protective bag that stacks well and holds its shape. Excellent grease-proofness. Shortening will not wick through seams, folds and creases. High moisture protection keeps cookies crisp longer.

Riegel's Tri-plex has an excellent white surface for fine printing results. Bags can be supplied with heat-sealed closures. We believe Tri-plex now provides your bag maker with a truly superior material . . . at an attractive price.

BAGS COURTESY OF:
Arkell & Smiths, Hudson Falls, N. Y.

Riegel

PROTECTIVE PACKAGING MATERIALS

RIEGEL PAPER CORPORATION • 260 MADISON AVENUE • NEW YORK 16, N.Y.

One look and you know it's new

The modern teardrop shape of this unique package sets it apart on the shelf . . . and at the same time solves some display problems.

Armstrong designers created the strikingly different package to clearly distinguish the new product from regular ketchup. Also, the neck label slants upward to meet the shopper's eye . . . giving better product identification. Let Armstrong help you with your packaging problems. Armstrong Cork Company, Lancaster, Pennsylvania.

Armstrong PACKAGING

WATCH ARMSTRONG CIRCLE THEATRE EVERY OTHER WEDNESDAY EVENING ON CBS-TV

fresh as clover in

REYNOLDS ALUMINUM FOIL FOLDING CARTONS

Of course, Armour gives its famous Cloverbloom Margarine the *intimate* protection of Reynolds Wrap Aluminum Packaging...all gleaming gold around the prints inside the carton. And now the carton itself becomes an *extra* protector as well as a brilliant product display. Now the *outside* of the Cloverbloom package catches the light and shines for the shopper in refrigerated cabinets...with sales-boosting appeal. It's a Reynolds Aluminum Foil Folding Carton!

What is *extra* protection for the delicate flavor and freshness of margarine can be sole and sufficient protection for many other products. Aluminum foil cartons provide important defense against moisture, light and odors. And, as mass produced and gravure-printed by Reynolds, they are amazingly economical...needing only minor adjustments to be handled on standard equipment.

With greatly expanded modern facilities, Reynolds now offers nationwide service in aluminum foil folding cartons as in every other form of Reynolds Wrap Aluminum Packaging. For full information on cartons used alone or in combination, call any Reynolds sales office. Or write to Reynolds Metals Company, Richmond 18, Va.

The Seal that means BRAND POWER PLUS! Surveys show 8 out of 10 women know this Seal...and 7 out of 10 of these prefer products carrying it. So it adds a sales plus... besides the Power of your Brand. Powerfully promoted. Take advantage of the Reynolds Wrap Aluminum Packaging Seal.

QUALITY PROTECTED WITH REYNOLDS WRAP® ALUMINUM PACKAGING

REYNOLDS ALUMINUM

Watch Reynolds new TV shows "Walt Disney Presents" and "All Star Golf" every week on ABC-TV.


oleomargarine
new!
GUARANTEED
cloverbloom®
margarine
requires refrigeration
A famous name shines out on a new folding carton...modern economical form of
REYNOLDS WRAP
ALUMINUM PACKAGING
Designed by Sidney Dickens
Chicago, Ill. for Armour & Co.

Want sealed packages that stay sealed?

The glassine paper above is tearing, but the seal is *not*. The reason is simple. It's the coating based on PLIOLITE S-7. This unique copolymer insures a heat-seal that just won't give.

And that's not all. PLIOLITE S-7 also provides glassine and other papers with supreme crease-resistance, excellent resistance to the passage of moisture, unusual anchorage, good slip, superior aging, high gloss and exceptional clarity – simply and economically.

PLIOLITE S-7 is supplied as a 30% solution, in a single aromatic solvent, designed for high-quality paper coatings. It is easily modified with waxes, resins or liquid plasticizers to meet specific requirements. And it is smoothly applied on standard equipment. For full details, including the latest *Tech Book Bulletins*, write Goodyear, Chemical Division, Dept. A-9465 Akron 16, Ohio.

GOODYEAR

60th GOODYEAR ANNIVERSARY

CHEMICAL DIVISION

Pliolite, –T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

your product belongs

in glass by Brockway

Before your product is widely represented, it must have acceptance by the consumer public . . acceptance for the product itself . . . and acceptance for the container in which it is presented for sale. • Nothing will make a good product quickly acceptable and appealing at the point of sale like a quality glass container . . . a glass container by Brockway. Only the finest quality glass containers are permitted to leave Brockway's plants . . . the kind of quality that assures efficient operation on today's high speed bottling lines. • A product that is worthy of public acceptance deserves a quality glass container by Brockway.

SYMBOL OF QUALITY · GLASS CONTAINERS ·

BROCKWAY GLASS
COMPANY, INC., Brockway, Pennsylvania
Sales Offices in Principal Cities

Cellu-Craft sells again for KLEINERT RUBBER COMPANY

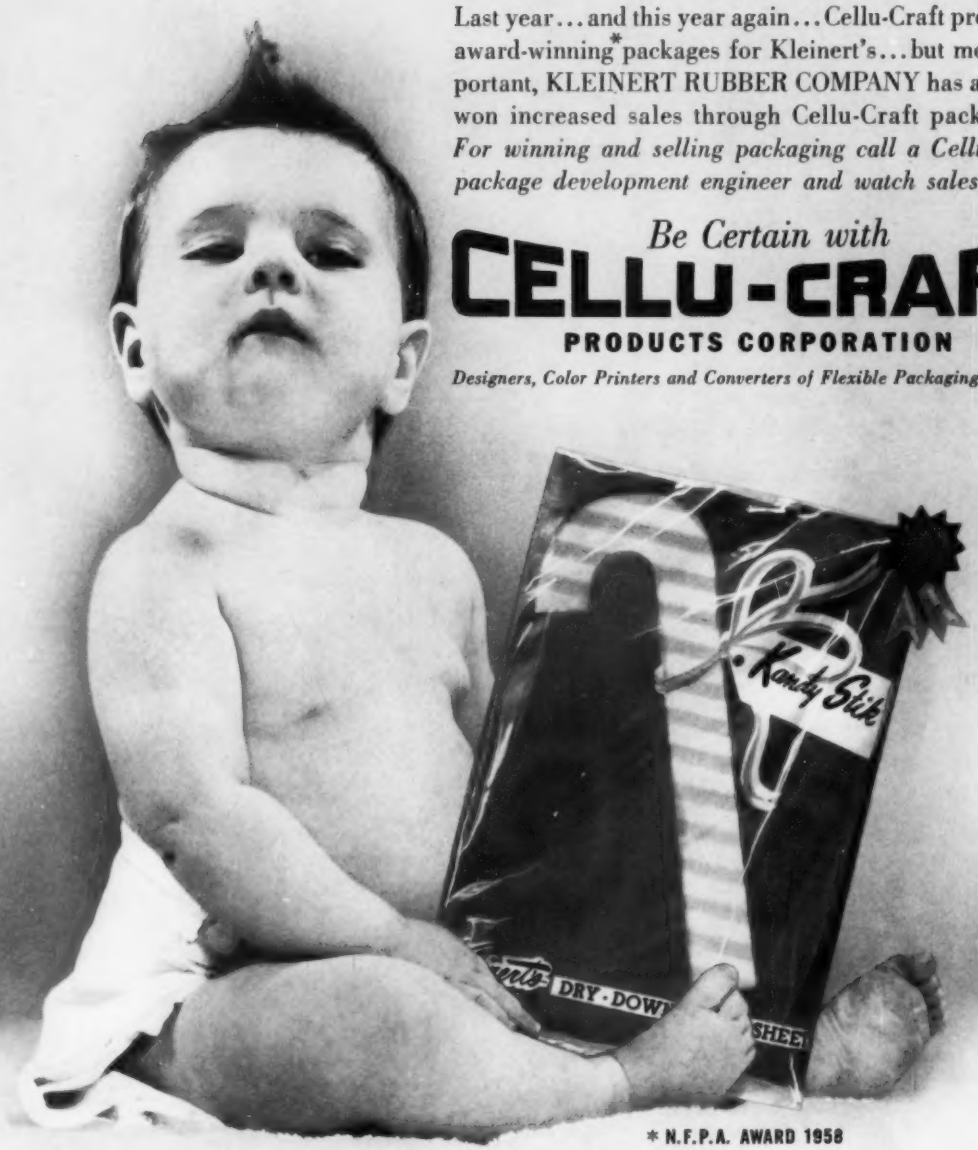
Last year... and this year again... Cellu-Craft produced award-winning* packages for Kleinert's... but more important, KLEINERT RUBBER COMPANY has already won increased sales through Cellu-Craft packaging. *For winning and selling packaging call a Cellu-Craft package development engineer and watch sales grow!*

Be Certain with

CELLU-CRAFT

PRODUCTS CORPORATION

Designers, Color Printers and Converters of Flexible Packaging Materials

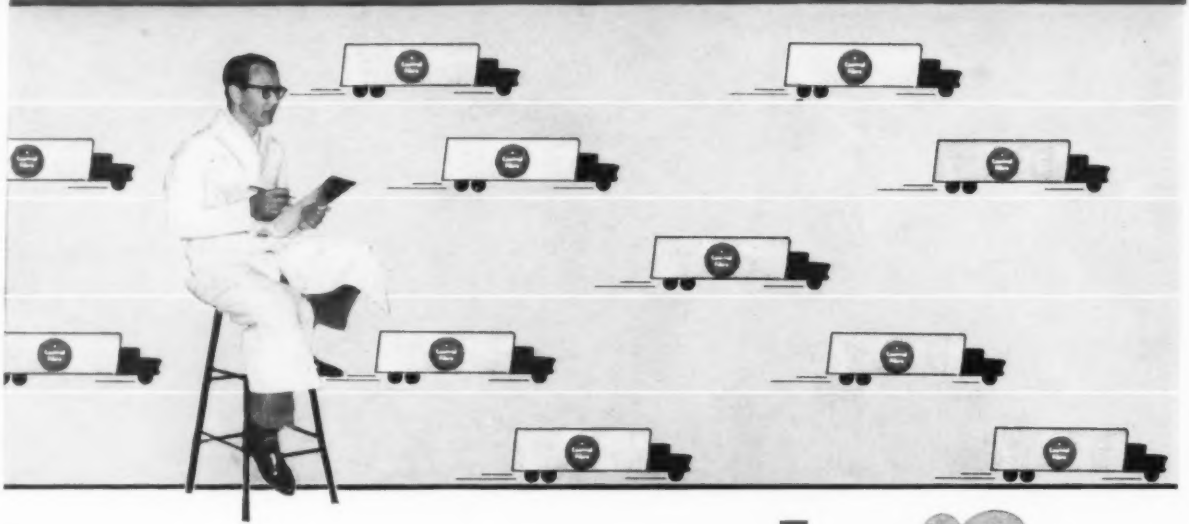


* N.F.P.A. AWARD 1958

General Offices & Plant: **1401 4th AVE., NEW HYDE PARK, N. Y., PRIMROSE 5-8000** *Sales Offices in principal cities*

PRINTED CELLOPHANE • POLYETHYLENE • PLIOFILM • FOIL • ACETATE • GLASSINE • in ROLLS • SHEETS • BAGS • POUCHES • ENVELOPES

Central Fibre PLUS Service Can Mean PLUS Profits for You!



Let Central Fibre Fast Deliveries

Help Reduce Your Packaging Inventory Expense

Central Fibre's fast dependable deliveries—overnight to mid-American manufacturing centers—is bringing plus profits to many firms. Packaging inventory expense is being reduced, handling and storage costs are being cut. Let the Central Fibre representative show you how Central Fibre plus service can mean plus profits for you.

CENTRAL FIBRE SERVES AMERICA FROM 22 CONVENIENT CITIES

Paperboard and Specialties • Assembled Partitions
Corrugated Shipping Containers • Folding Cartons and Set-Up Boxes
Egg Packing Materials • Poultry House Supplies
Mapes Molded Pulp Products

★ Central Fibre

More Than 80 Years of Continuous Service and Progress

CENTRAL FIBRE PRODUCTS COMPANY

General Office: Quincy, Illinois

Smarter, wiser by the bundle!

LOOK at these bundled packages of Electric Auto-Lite original service parts. Snugly sheathed with gleaming VITAFILM, they get quick and certain identification—lasting protection.

What's more, when you bundle with an overwrap of beautifully transparent VITAFILM, *expensive cartons can be eliminated.*

And remember, VITAFILM heat-seals with a positive weld—doesn't rip or split. Adapts readily to automatic high-speed packaging equipment.

In fact, with VITAFILM prices now so low, it's thrifty *and* smart to use this "quality control packaging" to solve your problems. For expert help, call in the Goodyear Packaging Engineer, or write: Goodyear, Packaging Films Dept. X-6418, Akron 16, Ohio.

Vitafilm THE FINEST IN **SHEER** PROTECTION

GOODYEAR

Vitafilm, a Polyvinyl chloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

CLEVELAND CONTAINERS—

planned packages for foods

GELATIN
CHEESE
COCOA
BISCUITS
BAKING POWDER
FLOUR
SALT
SPICES
CROUTONS
ETC.

CLEVELAND CONTAINERS are favored by many food manufacturers . . . such as the well known Los Angeles firm of Farmer Brothers . . . because, spirally wound or convolute, they are planned for the specific needs of each product whether packaged for home, institution, or commercial use.

- **THESE FOOD PACKAGES WERE DESIGNED TO PROTECT THE FLAVOR, TEXTURE AND QUALITY OF THE CONTENTS.**

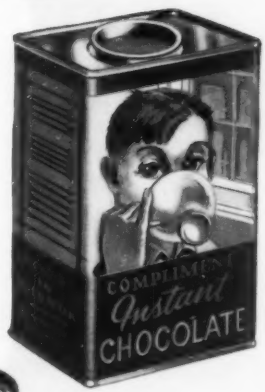
  Choice of liners in parchment, glassine, aluminum foil, polyethylene, etc. . . . provides moisture and grease resistance as required.

- **THEY SHOW VARIOUS TOPS, DISPENSING TYPES EASILY OPENED FOR USE . . . AND READILY CLOSED.**

  Closures of metal or plastic in various designs and sizes provide the functional features called for.

- **THEIR LABELS OR WRAPPERS ARE ATTRACTIVE . . . PERSUASIVE . . . WIN PROMPT CUSTOMER ACCEPTANCE.**

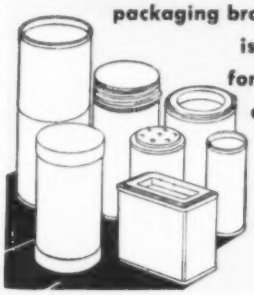
  Can be made with plain or decorative wraps, or labeled as desired. May be had in many colorful combinations.



Why not let our Engineering Department help you with your packaging problems.

Why pay more? For quality products . . . call CLEVELAND!

Our newest illustrated packaging brochure is yours for the asking.



PLANTS & SALES OFFICES: CLEVELAND, DETROIT, CHICAGO, MEMPHIS, LOS ANGELES, PLYMOUTH, WIS., JAMESBURG, N. J., FAIR LAWN, N. J.

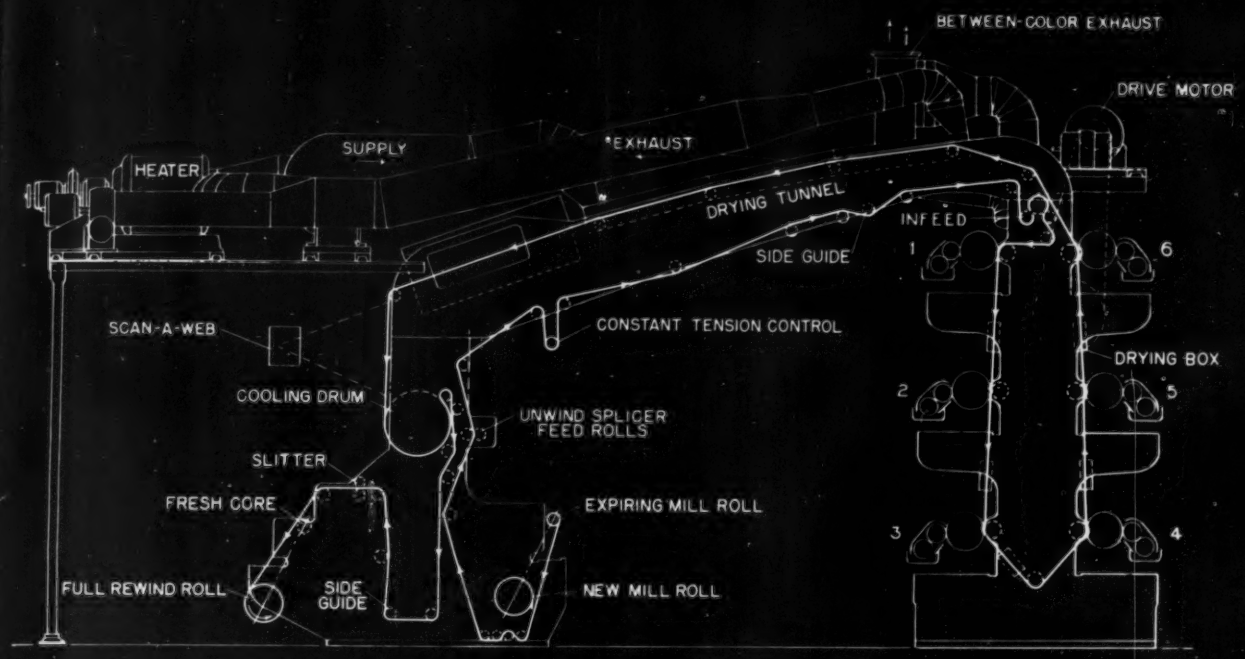
THE CLEVELAND CONTAINER CO.

6201 BARBERTON AVE. • CLEVELAND 2, OHIO

ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS • SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES.

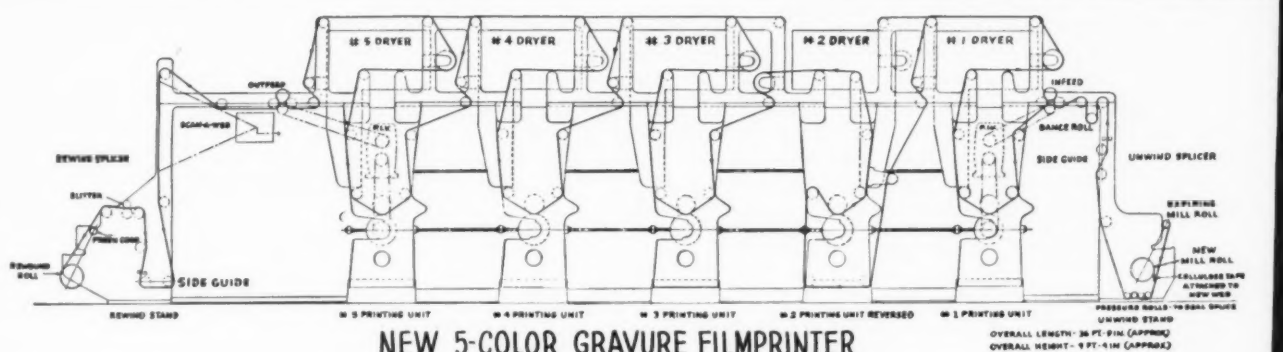
CLEVELAND CONTAINER CANADA, LTD.
Plants and Sales Offices: TORONTO AND PRESCOTT, ONT. Sales Office: MONTREAL

SALES OFFICES: NEW YORK CITY, WASHINGTON, D. C., ROCHESTER, N. Y., WEST HARTFORD, CONN. • ABRASIVE DIVISION AT CLEVELAND



KIDDER FLEXOGRAPHIC FILMPRINTER

Kidder has always made fine flexoprinters, letterpresses, heavy duty gravure presses, slitters and rewinders ...



NEW 5-COLOR GRAVURE FILMPRINTER

Now add a gravure filmprinter

The new Kidder Press designed specifically to print film by the gravure process is now being built — and it's the world's most advanced Gravure Press!

The new Kidder Gravure Filmprinter will have all the characteristics that converters now praise in the Kidder Flexo Filmprinter — uniformly high quality of product, non-stop roll-after-roll operation, shipment of printed material direct from the rewind end of the press.

And as with all other Kidder Presses, Kidder's Performance Engineers will personally guarantee the Gravure Filmprinter's superior operation. They will check installation in your plant, tune the press to top running order, and educate your pressmen to get the finest production possible. Only Kidder has such an expert service as this.

See Kidder — soon!

Kidder Press Company, Inc., Dover, N. H. Eastern Sales Office: Empire State Bldg., New York 1, N. Y. Mid-West Sales Office: 400 Washington Bldg., Madison 3, Wisconsin. West Coast Representative: Bojanower Machinery Service Corp., 5270 E. Washington Blvd., Los Angeles 22, California.

Make Good Impressions Faster with

Kidder

Flexoprinter, Letterpress, and Gravure Presses, Slitters and Rewinders

FOODS IN GLASS MOVE IN MASS!

Today—more than ever—more food products are moving in glass! In this age of the self-service market, no other package can increase sales for you, especially impulse sales, like the glass package. It stands out because it lets customers see the big appeals of your food. Quality, size, shape, color, texture. It's the best way to introduce your new food products. The best way to step up sales of slow movers—to get your products out of the competitive rut.

To get the best in glass packaging, be sure to call on your Anchor Man. He has a complete line of Anchorglass® containers, Anchor® vacuum, screw and lug style closures, and sealing machines with speeds ranging from 30 to 1000 per minute. He can also put his Package

Engineering and Research Division to work for you to help make every phase of your production more efficient.

So let your Anchor Man help you move more food in mass with quality-controlled Anchorglass containers, protected by dependable Anchor closures. Anchor Hocking Glass Corporation, Lancaster, Ohio. Branch offices in all principal cities.

ANCHOR HOCKING

Glass Containers and Closures

This seed-starter kit needs only water to germinate the seeds. Holes are punched in the lid, and water poured through. The base serves as the planter box after seedlings appear. Punching of holes won't crack the lid because Campco sheet eliminates internal stress. Production costs are kept low to permit the inexpensive 49¢ sale price.

Perfect pack for the product ...with low-cost CAMPCO sheet

Low production cost is *the* big requirement for this Northrup-King Punch 'n Gro pack. Yet other requirements are equally stringent. The hole recesses must be easily punched out, but not so weak that they will rupture in shipment. The lid should also have high optical clarity, yet cannot shatter or crack during shaping. The base, too, needs to have high impact resistance, even in sections thinned for economy.

Here's how Campco know-how and materials met the requirements:

1. To maintain crystal clarity of the lid, CAMPCO acetate was recommended. Its special non-blushing formulation eliminates all clouding and discoloration.

2. To achieve high impact strength in the base, CAMPCO provided .015" gauge rubber-modified polystyrene sheets which are vacuum-formed to make the base. This permits a much thinner gauge than injection-molding, since it eliminates internal stresses. In the lid, this permits using .010" gauge acetate —necessary for punching of clean holes—because fragility is eliminated.

3. To meet the required production cost, CAMPCO worked closely with the package manufacturer—Mankato Paper Box Co. CAMPCO provided full technical assistance to help make forming operations as simple and inexpensive as possible. This assistance began in the design stage, and continued through development of molds and forming methods.

How Campco can help you

CAMPCO is your most complete source of plastic sheet and film—acetate, polyethylene, nylon, styrene or other materials. There are also special formulations that take easily to high-quality printing. CAMPCO can also suggest ways to adapt your designs to take advantage of economical *stock* rolls and sheets. All CAMPCO sheets come in a wide variety of sizes and gauges, and you have many patterns from which to choose. For complete details, write today.

While we do no custom fabricating, we will be glad to recommend a source of fabrication in your area.

CAMPCO *sheet and film*

a division of **Chicago Molded Products Corp.**

2708 Normandy Avenue, Chicago 35, Illinois

STYRENE • ACETATE • POLYETHYLENE • RIGID POLYETHYLENE • BUTYRATE • COPOLYMER STYRENE

sales starters: packages that interpret your product and company through appealing design, competently reproduced. Choosing the best process for the job, Lassiter prints by lithography, letterpress, flexography or rotogravure—on a variety of materials. Another good reason to call Lassiter.

LASSITER
CORPORATION
350 FIFTH AVENUE • NEW YORK 1

EXECUTIVE OFFICES: Charlotte, N. C.
DIVISIONS: Chicago, Ill. • Cheltenham, Pa.
Atlanta, Ga. • Greensboro, N. C. • Danville, Va.

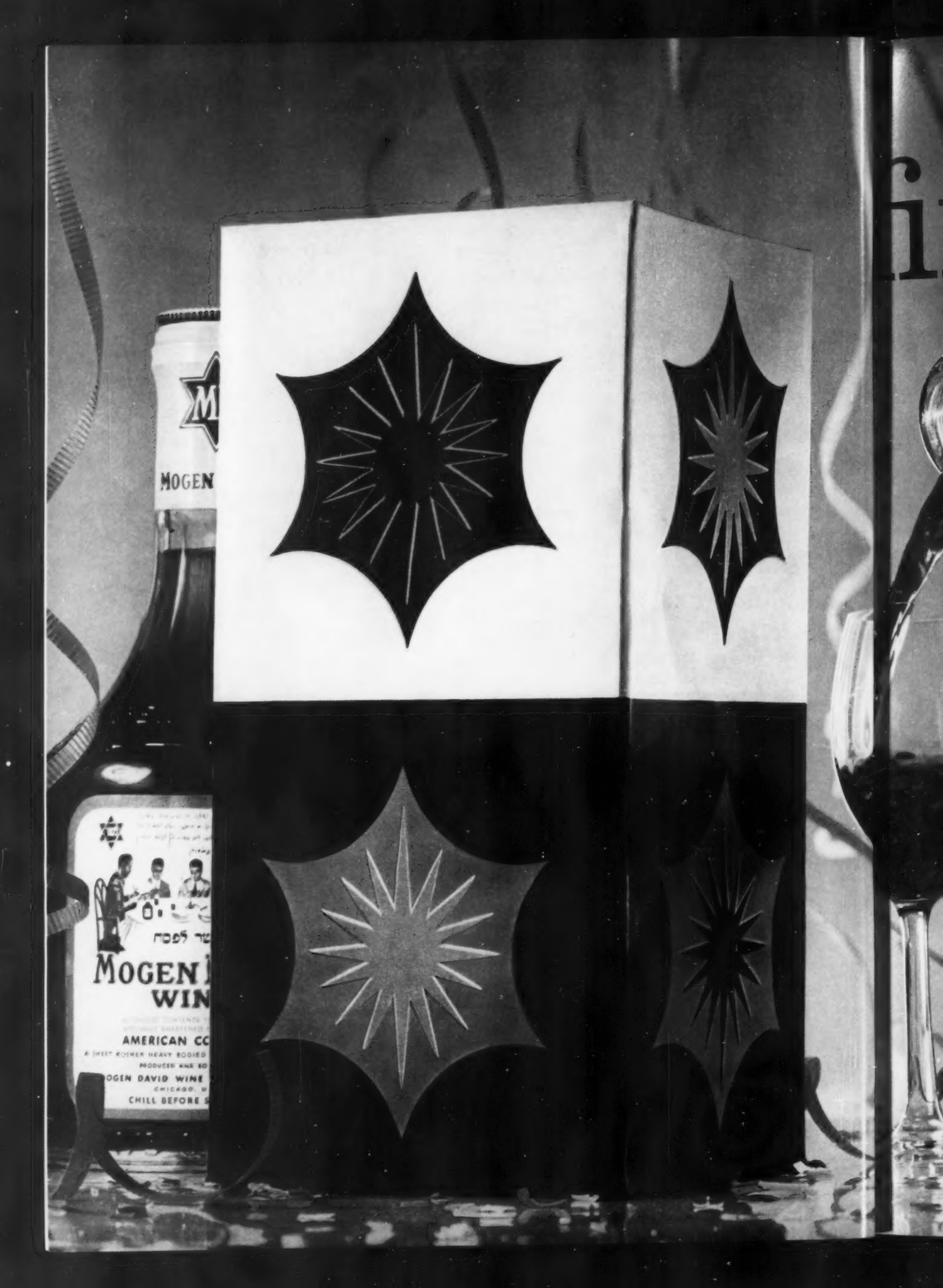
DESIGNERS AND MANUFACTURERS OF PRINTED PACKAGING IN FILM, FOIL, PAPER, PAPERBOARD.

YESSIR—ALL THESE FINE BRANDS ARE NOW SOLD IN **ACCU-POR** CANS!

And no wonder! Canco's Accu-Por can pours freely, yet won't drip a drop when righted. Handy, light, unbreakable, these containers are available in pint, quart and half-pint sizes—and priced as much as 25% below similar cans. Perfect for almost any liquid product—household specialties, automotive, marine. It is the ideal package for liquids—well suited to many dry products.

Maybe Accu-Por cans will help sell your brand! Talk to your Canco representative today.

CANCO **AMERICAN CAN COMPANY**


MOGEN
MOGEN
WIN
AMERICAN CO
CHILL BEFORE S

MOGEN DAVID SCORES MERCHANDISING FIRST IN WINE INDUSTRY WITH GIFT WRAP OF KAISER ALUMINUM FOIL

Another striking example of how Kaiser Aluminum, through its Aluminum Consulting Team, helps packagers gain the Competitive Edge

The festive gift-wrapped package* shown here is the result of close teamwork between Kaiser Aluminum A·C·T specialists, the Chicago Carton Company, and Mogen David production men. It offers tangible evidence of how A·C·T works with packagers to improve products and increase sales.

In the words of Mr. Bernard J. Wiernik, Vice President in Charge of Sales and Advertising, here are some of the important competitive advantages Mogen David gains with handsome foil packaging:

"There will be no increase in the price of the product to the wholesaler, retailer or consumer. We fully expect to double sales of our products merchandised in the gift cartons.

"Its greatest consumer appeal is in the fact that here is a gift already beautifully foil wrapped and ready for giving. In addition, the foil is 'psychologically protective' in the mind of the consumer, giving a 'sealed in metal' look.

"From the standpoint of the retailer, the foil-wrapped cartons have dramatic shelf-appeal, stack easily into massive displays, and give the product strong brand identity."

FOR THE COMPETITIVE EDGE IN PACKAGING

. . . ALUMINUM CONSULTING TEAM

The Aluminum Consulting Team has been created by Kaiser Aluminum to help designers and users of packaging *use aluminum* to develop competitive advantages in cost, sales appeal, package efficiency.

ACT

A·C·T specialists in package engineering, design, processing, equipment, marketing and research are ready to offer you the same assistance that has helped so many packagers, such as Mogen David, gain greater selling appeal for their products.

Call your Kaiser Aluminum sales representative for full details and your free copy of the informative booklet, "A·C·T—How It Can Help You Reduce Costs and Improve Your Products." Or write for booklet to Advertising Department, Dept. F-989, Kaiser Aluminum & Chemical Sales, Inc., 919 North Michigan Ave., Chicago 11, Ill.

Kaiser Aluminum & Chemical Sales, Inc., *Executive Office,* Kaiser Bldg., Oakland 12, Calif.; *General Sales Office,* Palmolive Bldg., Chicago 11, Illinois.

Kaiser Aluminum specialists work directly with packagers to develop new competitive packaging advantages. Left to right: Mogen David production supervisor, Chicago Carton Company executive, and Kaiser Aluminum A·C·T specialist.

*Product identity and government-required copy printed on cellophane outer sleeve which can be removed from gift-wrapped carton by purchaser.

SEE "MAVERICK", SUNDAY EVENINGS ABC-TV NETWORK. SEE LOCAL TV LISTING.

KAISER ALUMINUM


SAILBOAT BRAND®
Bleached Sulphate Board
is master in its class!...
unexcelled in quality of food container board,
linerboard, cup stock and specialty board
produced in St. Marys, Georgia,
in an exclusive-process plant,
entirely of virgin pulp.
May we send you samples?
Cup Stock
that combines
perfect bead
with strong resistance
to hot or cold
liquids.
SAILBOAT
Gilman
PAPER CO.
Gilman Paper Company
3 Generations of Paper Making
New York: 630 Fifth Avenue • Chicago: Daily News Bldg.

LOOK

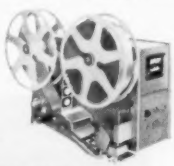
what you can do with

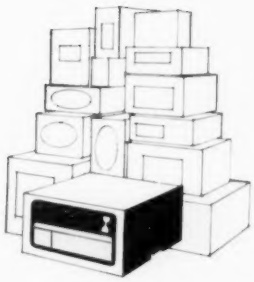
AVERY

Pressure-Sensitive

LABELS

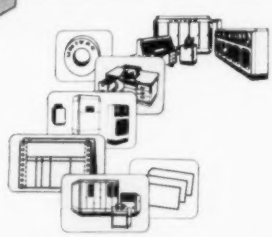
CUT costs
REDUCE inventories
UNIFY packaging stocks
SAVE time and money
EXPEDITE shipping
IMPROVE product recognition





DIRECT BEARING — Carton identification was costly and cumbersome until McQuay-Norris switched to Avery color-coding labels. Stocks were reduced from 40 to 9 basic label sizes . . . application time was cut 65% . . . and the auto parts company had a tight-gripping label that provided clear information quickly.

GLOWING REPORT — The Lustra Corp. of America provides an unconditional guarantee of life expectancy on each fluorescent tube and light bulb. Avery self-adhesive labels applied at the end of the tubes over the metal contact pins spell out this guaranteed period neatly and plainly.



WORTH 1000 WORDS — Remington Rand uses miniature self-adhesive line cuts to illustrate planning layouts effectively. UNIVAC salesmen in 100 offices rely on these handy Avery labels to **show** customers the operating procedures of the company's Data Automation System. Remington Rand salesmen like it . . . customers do too.

Always ask for

AVERY LABELS

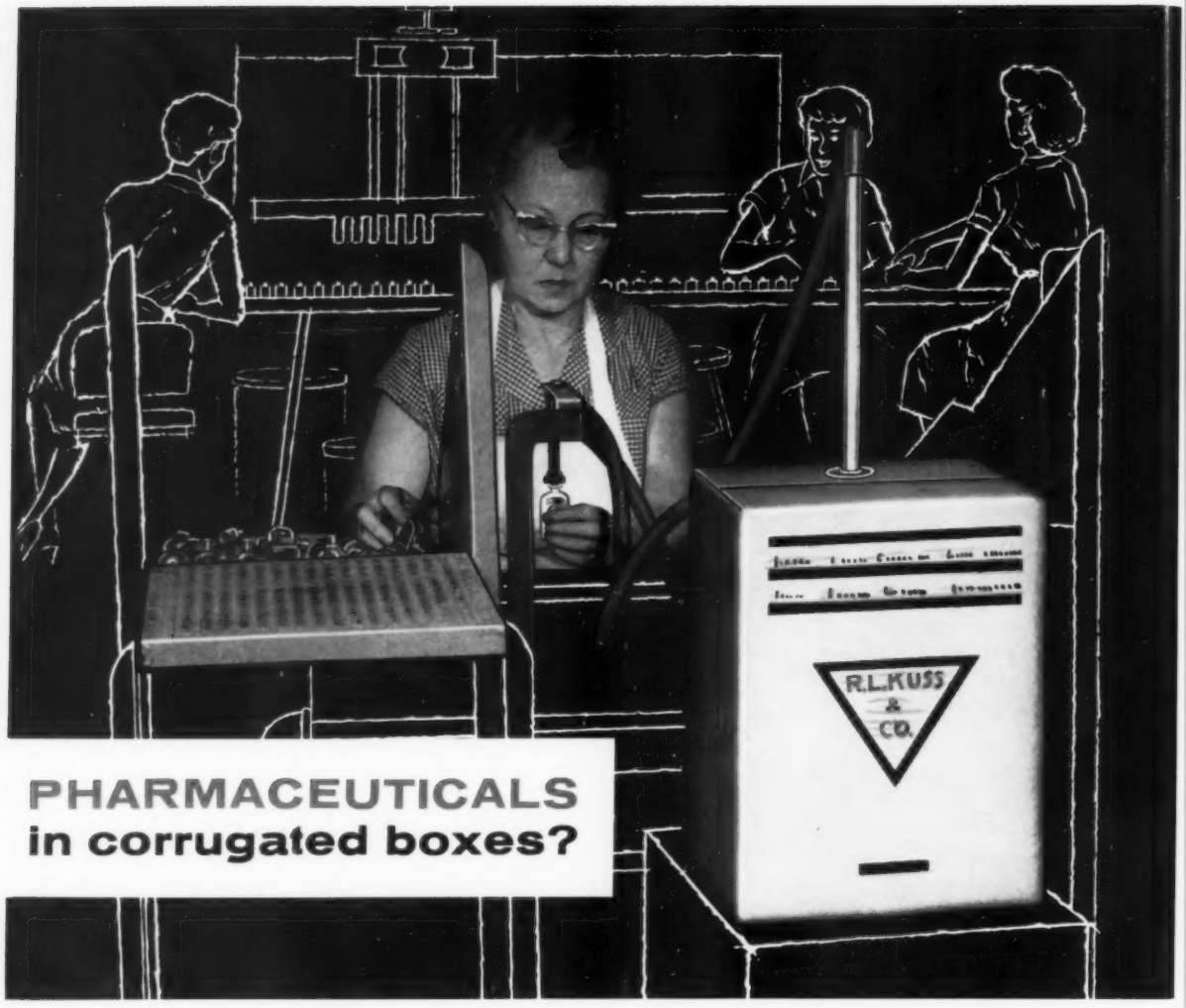
what a difference they make!

AVERY ADHESIVE LABEL CORP., Div. 127
117 Liberty St., New York 6 • 608 S. Dearborn St., Chicago 5
• 1616 S. California Ave., Monrovia, California

☐ Please send me further details on how Avery Labels can save me time and money.
☐ Please have your sales representative call soon

Name _____
Company _____ Title _____
Address _____
City _____ Zone _____ State _____

Avery Labels are manufactured and distributed throughout the world. Write Foreign Operations, Avery Adhesive Label Corp., Monrovia, California, for addresses.



PHARMACEUTICALS in corrugated boxes?

ANOTHER Kflex® CREATIVE PACKAGING DEVELOPMENT

Something wrong with this picture? No indeed! And nothing wrong with your eyes, either. She really is syphoning liquid from a corrugated box!

Of course, that isn't quite all there is to it. Inside this 5-gallon container is a Kflex liner, made from a plastic film that was developed specifically for just this sort of product. Impermeable, flexible and abrasion-resistant, this liner provides air-tight, evaporation-proof protection for the liquid during shipping and storage and is unaffected by extremes of weather. The recessed polyethylene spout has a screw-on cap for resealing if only a part of the contents is used.

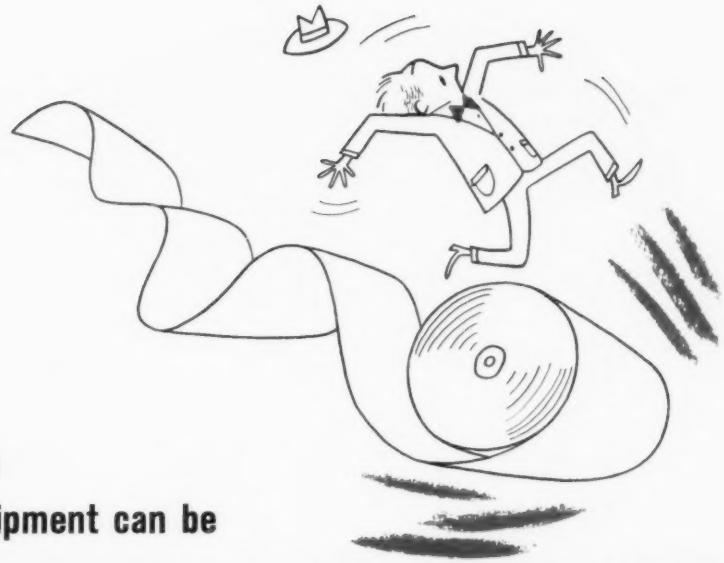
For almost any liquid packaging task you can think of—drugs, cooking oils, acids, paint, varnish, turpentine—Kflex liners are your best answer. In terms of convenience and economy, you'll be way ahead:

- On Initial Cost. Expensive glass or metal containers are no longer needed. You'll save up to 40%.
- On Storage. Cartons with Kflex liners are supplied knocked down. You'll reduce your warehouse space needs by as much as 90%.
- On Production. No expensive alterations of your present filling equipment will be necessary.
- On Transportation. Lightweight containers reduce your shipping costs. And it's a one-way trip! They're disposable when emptied!

We at Kuss thrive on packaging problems. And as we thrive, so do those industries who have turned their problems over to us. Kflex packaging is saving them money, and it can do the same for you.

Write us for full information.

R. L. KUSS & CO., INC. • FINDLAY, OHIO



Failing to get the right unwind equipment can be

A COSTLY MISTAKE

Almost any unwind equipment looks good when it is new, but continuous, dependable performance depends on the brake. Continuous braking required on unwind equipment is one of the toughest jobs in roll processing. When your brake, the heart of unwind equipment, hasn't got what it takes it soon loses control of tension on the unwinding web. Parent roll waste increases and quality goes downhill—fast! By the time you locate the fault you're in real trouble!

Continuous unwind braking is like driving a car on long trips day after day, with the brakes on all the time, all the way. Friction and heat transfer present a tremendous challenge to engineering skill. Unwind brakes don't just hold—they must provide highly sensitive continuous web control through a wide torque range, plus extremely smooth, fast stops. The slightest failure in response can snap the web or set up damaging vibrations.

Play it safe! When you choose your unwind equipment insist that it meet these two important requirements: First, it must be designed specifically to meet the unique demands of continuous service; Second, the unwind brake must be custom-fitted to meet your individual needs as they relate to differences in speed, machine width, roll diameter, tension and characteristics of material.

Choice of shaft-type or shaftless design, skew adjustment, edge-guiding, mill roll oscillation and automatic centering are other things to consider when you select unwind equipment.

To give you assurance of dependable service Cameron specialists have developed a full line of unwind equipment including the only complete line of brakes ever built specifically for continuous unwind control (21 models). Is your problem with small diameter rolls of light plastic films such as saran, mylar and cellophane? Or, do you handle 72″ diameter rolls of heavy grades of paper or paperboard? No matter what material you work with you can get the *right* equipment custom-fitted with the *right* Cameron brake to meet your exact unwind requirements.

Don't let time and money losses pile up. If you are not getting the *sure* web control you need to stay well ahead of competitive standards then it's high time to contact the Cameron specialists. Do it now . . . write for information on Cameron unwind equipment and web controls.

Ask about the new Cameron Lease Plan

Cameron Machine Company, Franklin Road, Dover, N. J.

Canada: Cameron Machine Co. of Canada, Ltd., 15 Hatt St., Dundas, Ontario

France: Batignolles-Chatillon, 5 Rue De Monttessuy, Paris (7e) France

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52 years devoted exclusively to the design and manufacture of slitting, roll winding and unwinding equipment...the CAMERON team of specialists

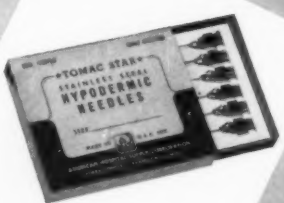
AA-360

across the counter...

Rowell boxes

keep fine products

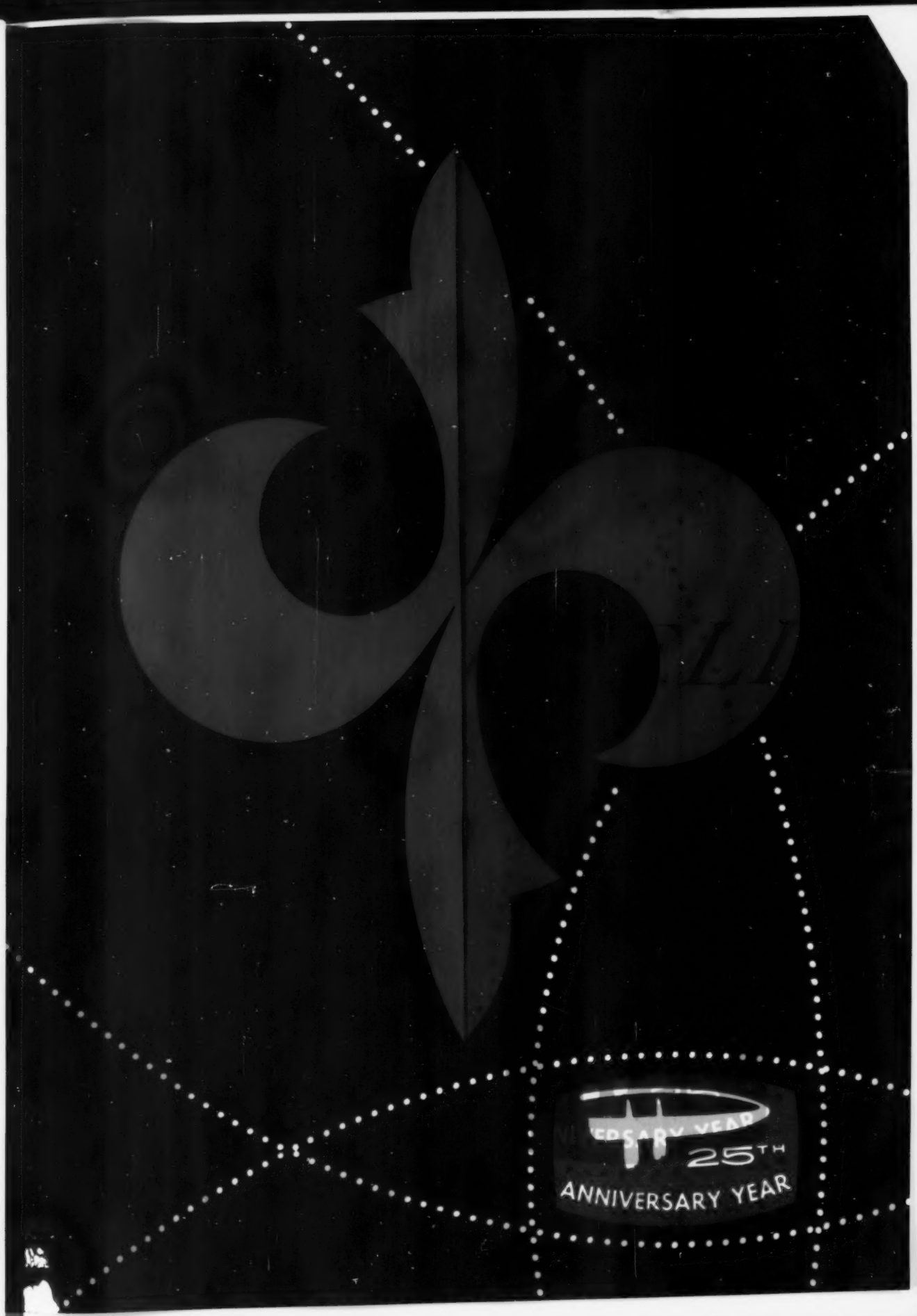
on the move!



Set-up boxes in a wide range, made for Cosmetic & Drug Trade throughout the United States. Inquiries also invited from box users in other lines

E. N. Rowell Co.
INC.
BATAVIA, NEW YORK

...into the home!


25TH
ANNIVERSARY YEAR

25TH
ANNIVERSARY YEAR

One in a series of family-related packages now being introduced by Dan River Mills, Inc.

designed to SELL

Another distinctive package created by our national award-winning design staff, printed and fabricated in our recently expanded manufacturing facilities

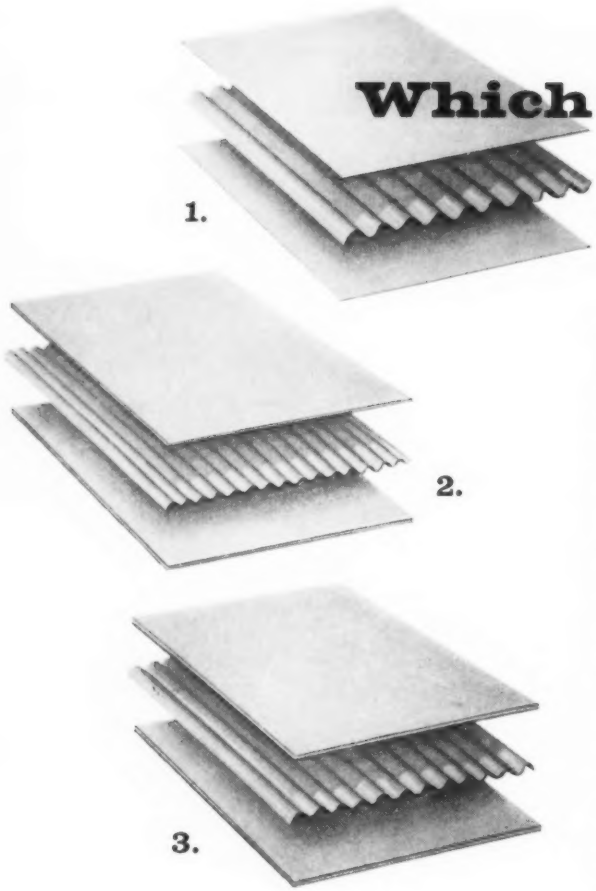
25TH ANNIVERSARY YEAR

Package Products CO., INC.
CHARLOTTE, NORTH CAROLINA

SALES OFFICES:
Atlanta • Dallas
Knoxville • New York

What you should know about *con*

Which combination for y



1. "A"-flute board
2. "B"-flute board
3. "C"-flute board

Think of the "sandwich" of corrugated as the built-up layers of board that fold to form your shipping container.

In double-faced board, its most widely used form today, this "sandwich" consists of one sheet of corrugated medium glued between an outer and an inner liner. But there are many combinations depending on the degree of protection required. Different types of flutes ("A", "B" and "C"). Different weights or thicknesses of liners.

Which combination to pick depends primarily on your product. For example, how large is it? How heavy . . . durable? How is it normally shipped?

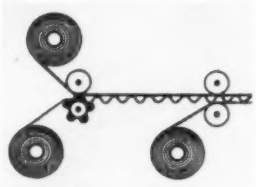
Union Box structural engineers will be glad to make such a product analysis for you and help plan your shipping container for greatest efficiency and economy.

Combining the board

The combination determined, rolls of corrugating medium and linerboard are placed on the corrugator. Here, steel "teeth" form the flutes, arching each one uniformly. The inner and outer facings are then applied.

combined board for Union Boxes

your corrugated box "sandwich"?



Board components

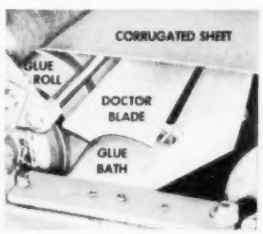
For extra-durable cushioning, Union's KEMKOR corrugating medium, made by the semichemical process, is normally specified. KEMKOR is a product of hardwood whose short, tough fibers combine remarkable rigidity with good load-bearing properties.

Making it stick

Adhering the inner and outer facings to the flutes are critical sheetmaking operations. *Pressures*, for example, must be sufficiently heavy to insure a durable permanent bond. Not so heavy as to crush and weaken the structure.

Then there's the *quantity* of adhesive used. Not enough results in a defective, prone-to-peel-apart sheet. Too much causes a "washboard" appearance and means that in order to achieve good printing some crushing of the flutes will occur. This crushing, while not always apparent to the eye, does reduce the overall strength of the box.

Even the amount of *heat* applied to the board can spell the difference between a strong "sandwich" and an unstable one. Adjusting heat to the *gel-characteristics* of the adhesive requires a fine balance. Too much heat prevents the glue from penetrating the board's fibers and causes a crystalline layer that breaks easily under stress. Insufficient heat allows the glue to "bite" but doesn't cook it enough to cause gellation and incomplete adhesion results. That's why it's essential that heat be accurately set for glue characteristics and machine speed as well as for the weight of board being run.



Glued for good

These controlled processes are typical of the detail that goes into every operation of Union Box manufacture. They save time and expense during handling, filling and loading. They provide the surest kind of protective insurance for your product and your overall shipping investment.

Write for new, informative booklet, "Manufacturing Sheets for Corrugated Boxes."

union camp ®

UNION BOXES

UNION BAG-CAMP PAPER Corporation

233 BROADWAY, NEW YORK 7, N. Y.

Factories: *Savannah, Ga., Trenton, N. J., Chicago, Ill., Lakeland, Fla.*

Sales Offices: *Eastern Division—1400 E. State Street, Trenton, N.J.*
Southern Division—P.O. Box 570, Savannah, Ga.; P.O. Box 454, Lakeland, Fla.
Western Division—4545 W. Palmer, Chicago, Ill.

Background for packaging

Notes, quotes and comments

Why the delay in advent of the economical, one-piece, Italian-type aluminum aerosol can over here? One prospective big user, who has marketing plans calling for millions of cans, says it's due to difficulty in getting a tight seal where the can bead attaches to the valve. This is baffling, in view of the fact that a similar aerosol can has been eminently successful in Europe over the last two years. The problem will be licked. Meanwhile, prospective users in the toothpaste field are holding out for 7-oz. size, say U. S. 3-oz. aluminum aerosol container is uneconomical.

Big boost for thermoforming is seen in new Navy specification requiring all bearings to be sealed in oil in transparent plastic. In the Navy technique, two sections of plastic are thermoformed around the bearings, with preservative enclosed, and the package is made tight with a solvent seal. An identifying label is fabricated by a photographic process and incorporated within the sealed package. All this can be done by production-line techniques applicable to hundreds of other industrial products.

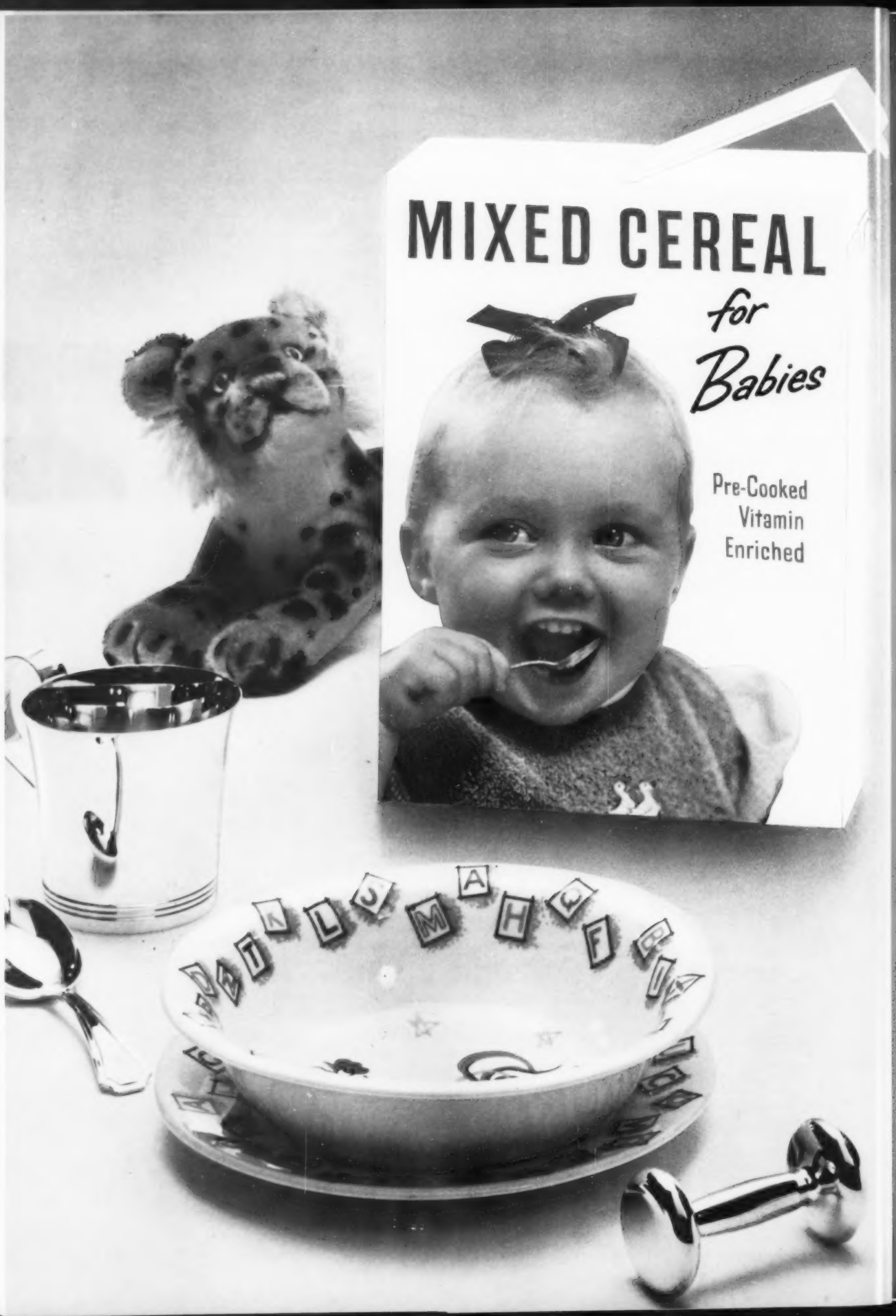
How to tell the new package from the old, when an improved product formulation is introduced? This is a prime question in the cigarette industry, where new blends and new filters require frequent changes. Recognition of existing package cannot be sacrificed. Philip Morris Co. handles it neatly with Marlboro by simply changing crest on the face of the package from gray-blue to gold, signifying a change to a new, milder blend. Meaning of this change is heavily advertised so that a smoker picking up an old package will not expect to get the improved smoke.

Steel industry is mending fences. Aroused at last by gestures of independence from can makers, who are promoting aluminum cans while moving also to install their own tinplate strip mills, steel mills are now improving their own facilities. Jones & Laughlin will spend $7½ million for a new, high-speed, continuous-annealing line for can metal which will give a more uniform product, possibly lighter weight or gauge of steel, improved container strength where needed. Aim, says J & L, is "to help the can industry meet the need for an even higher quality of tin can."

Is packaging missing the boat in variety stores? By the end of this year, more than half of all variety stores will be operating on self-service principles. But, say store managers, not enough products have adapted their packaging to the different display and self-selection requirements. Strangely enough, in this medium, they often do not like sealed packages. Cited as a good example is Maidenform bra carton, from which contents can be removed for examination; in these stores, customers insist on it.

Plastics industry is concerned by overcapacity in polyethylene—occasioned largely by the slowness with which higher-density resins are finding their markets. No one doubts, however, that these markets will eventually develop—particularly in molded and film packages. Meanwhile, packagers have every assurance that costs will be kept to the lowest possible level. Total 1958 sales of polyethylene resin will run about 750 million pounds; capacity is 1,300 million pounds, of which about 25% is for high-density materials. So far, high-density's one big market has been the hula hoop—a fad that is now dying about as fast as it sprang up.

Aerosol containers are now the biggest market for liquefied gases—bigger than the entire refrigeration industry for which they were originally developed. Aerosol packagers are now using 43,000 tons of such liquefied gases as Freon, Genetron and Isotron annually, while refrigeration takes about 31,000 tons. Other figures cited by *Morris J. Root* of G. Barr & Co.: Last year's 340 million aerosols consumed 54,000 tons of steel (enough for 27,000 automobiles); 1½ million gallons [*Continued on page 44*]


MIXED CEREAL
for
Babies
Pre-Cooked
Vitamin
Enriched

BRITE-PAK ENAMEL COAT

for healthier cereal sales!

A full-time salesman for cereal or any other dry food product is actually at work, right on the store shelf, if it is packaged in *economical* Brite-Pak Enamel Coat . . .
. . . West Virginia's new bleached board.

You can *see* the reason.

Brite-Pak has all the advantages of bleached board but also provides a *gleaming* coated surface that reproduces full color process printing far more brilliantly and sharply than yesterday's dull, dry food carton. The Brite-Pak package actually *invites* a purchase.

And Brite-Pak is *clean*, *white* and *sanitary* on both sides and all the way through! The Brite-Pak package, therefore, invites re-purchases.

Brite-Pak Enamel Coat is *inexpensive*, too.
Write or call for full information on all grades.

WEST VIRGINIA PULP AND PAPER COMPANY
Bleached Board Division 230 Park Avenue, New York 17

of ethyl alcohol; 750,000 lbs. of synthetic resins; $3,500,000 worth of plastics, including 200 million feet of polyethylene tubing.

Keep an eye on the new process for vacuum deposition of a thin layer of aluminum on paper (see "Metalized Paper Is Here," p. 82, this issue). First cost figures are not conclusive, but it is apparent that the process produces a foil-like surface, adequate for decorative purposes, using only a small fraction of the metal that is required for the thinnest foil. According to others who have had experience with this type of coating, it should produce satisfactory results at 40 to 70% of the cost of laminating foil, depending upon the base stock used.

Designer problem: How to reconcile the demand by packagers for pilferproof construction on the one hand and for non-deceptive package sizes on the other? For example, the trend toward roll-on deodorant cartons big enough to discourage pilferage has led to complaint that such cartons mislead shoppers into thinking they are getting a larger amount of product than they actually receive.

Background for packaging

How important is change? In a recent survey, reported in Canada, 80% of reporting food and grocery manufacturers said they had introduced at least one new package during the preceding year. No less than 70% of the new packages were package changes for existing products. And 75% of these grocery executives expressed the conviction that a package change brought an increase in sales.

Relative strength of sales of standard packaged groceries, as against the newer non-food lines, in supermarkets during the recession period of 1958 is causing marketers to take a new look at the non-foods trend. *Nielsen's Reports* for the first four months of 1958 show that grocery dollar sales went up 7.6% while non-foods (not including health and beauty aids) went up no more than 0.3%. Food-store operators are cautioned to keep these figures in mind when allocating shelf space and other merchandising support.

[*Continued from page 41*]

Convenience of packaged products has practically wiped out the home preparation of fruit and vegetable drinks. Juices in cans now account for 90% of the market; those in paper cartons, 3%, and home prepared, 7%, an American Can Co. survey shows. New non-carbonated fruit drinks get credit for gain by canned juices and for boosting juice servings in U. S. to one billion per week, 40% of them between meals.

Reason for automation of packaging lines is apparent in rapidly rising age level of factory workers. Best hand work is done between ages of 25 and 44; in 1965, despite the rising population, there will actually be fewer men and women in that age bracket than there are now. Either good factory workers will be hard to get, or wage rates will rise sharply, or—more likely—both.

Packaging and display, long challenged to move more goods at retail in the absence of effective personal selling, still have a big job to do, especially in toilet goods. Department-store buyers and merchandise managers were told recently by Toilet Goods Assn. that the average sales ticket in a retail drug store is only 69 cents and in a department store $2.67, but that house-to-house salesmen average $11 per sale.

Intelligence level of retail-store clerks today is indicated by National Cash Register Co. survey of 541 in all types of stores, showing that one out of five cannot add a simple column of figures and that one out of 10 can't even add two simple figures mentally. Such low-level personnel indicates what the packager is up against if he relies upon sales personnel, rather than the package, to push the sale.

. . . and he wed the Lady Polyethylene

In days of yore, marriage, romantic as it may have been, must have had its problems, too. Today, creating a film marriage is also a delicate undertaking. Just as in real life, each partner brings to the union certain qualities that give character and purpose to the whole. Our function as match-maker requires an intimate knowledge of the personalities involved and the ability to join their best capabilities successfully.

POLY-COATED FOIL is such a wedding. The groom—the tough, masculine, knight in shining armor—Aluminum Foil. The bride—Polyethylene—his clinging feminine counterpart, adding her unique qualities to the union. The result—a formidable, flexible shield for your product—tough, heat-sealable, moisture-vapor proof, machinable.

Poly-coated Foil is widely used for automatic packaging of soap-mixes, jellies, dehydrated foods, capsules, tablets, and other highly hygroscopic products. A new and growing use is for vending machine products. It is supplied either plain or paper-backed, printed or unprinted, in rolls or pouches.

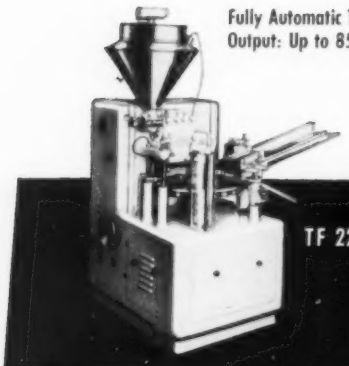
Write for our FREE, 32 page, comprehensive Machinery Manual on Poly-Coated Films.

print-a-tube
COMPANY
114 Essex Street, Rochelle Park, N. J.

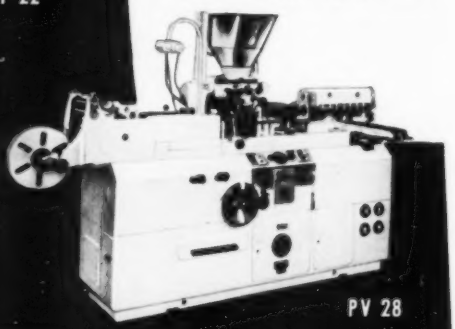
*Du Pont Reg. Trademark

SPECIALISTS IN MODERN FILM MARRIAGES FOR THE AUTOMATED PACKAGING OF POWDERS, LIQUIDS AND SOLIDS. OTHER EXTRUSION COATED 'PATCO' FILMS INCLUDE: POLY/CELLOPHANE; POLY/POUCH; POLY-ON-MYLAR*; CELLO/POLY/CELLO.

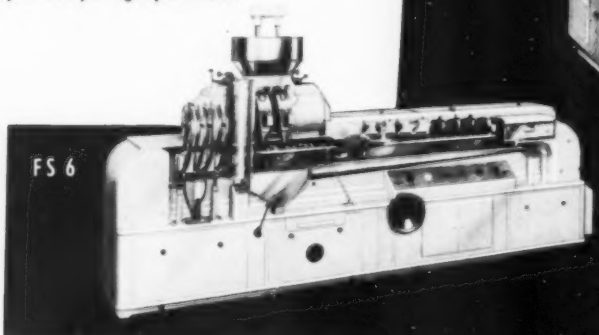
Fully Automatic Tube Filling and Closing Machine.
Output: Up to 85 tubes per minute



Fully Automatic Portion Packaging Machine
for filling powdered and granular products into flatbags.
Output: Up to 130 packages per minute

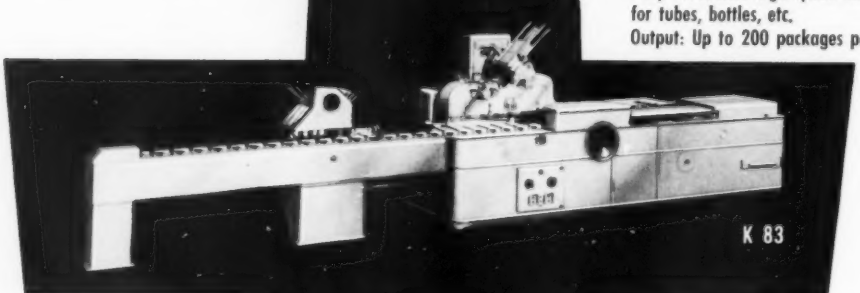


High Speed Flatbag Filling and Closing Machine for filling powdered and granular products into pre-formed flatbags.
Output: Up to 200 packages per minute.



Over 50 years' experience in the Field for the Production of Packaging Machinery.

Fully Automatic High Speed Cartoning Machine
for tubes, bottles, etc.
Output: Up to 200 packages per minute.

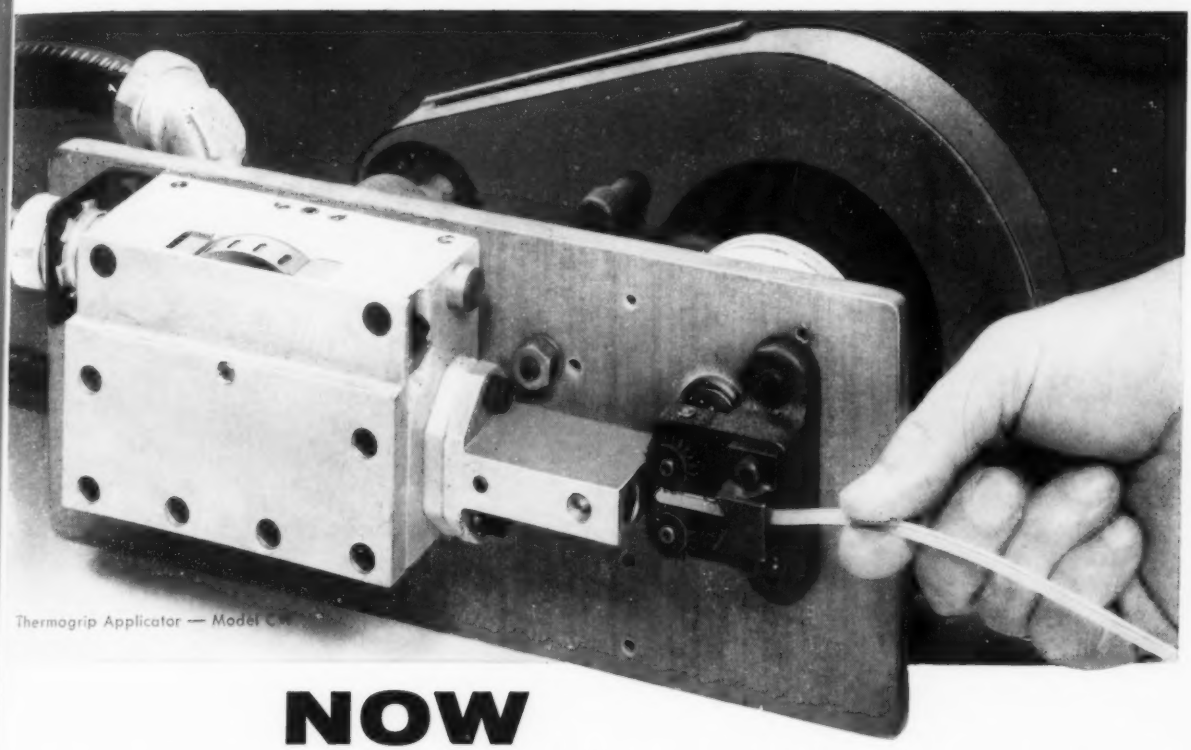


This trade mark stands for quality and efficiency

MfM

IWK INDUSTRIE-WERKE KARLSRUHE Aktiengesellschaft · KARLSRUHE · Germany

Correspondent's office: H. J. Jensen · 350 Broadway, New York 13, N. Y.

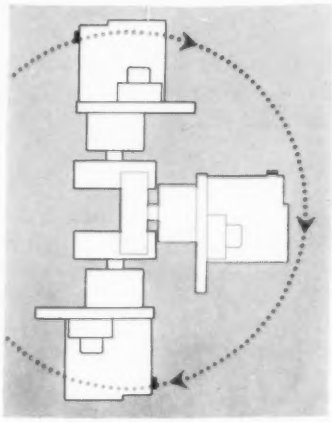


Thermogrip Applicator — Model CW

NOW APPLY THERMOGRIP®

adhesive in Dots-Dashes or Continuous Line

at Any Angle!



The new Thermogrip CW unit can be mounted vertically, horizontally, upside down, or at any angle. A better adhesive made more adaptable — more useful.

This new THERMOGRIP Applicator is a complete "packaged" adhesive system which applies hot-melt adhesives with a transfer wheel in a dot, dash, or broken-line pattern on box and package ends or sides, or any other object that can be passed next to a glue roll! It will apply THERMOGRIP Adhesive up to ½" wide and can be mounted vertically, horizontally or at any angle.

When adapted to your equipment, you can increase your production speed, improve quality and appearance of work and increase your success with the bonding of difficult-to-stick material such as foils, polyethylene, slippery surface papers, boards, fabrics or porous materials.

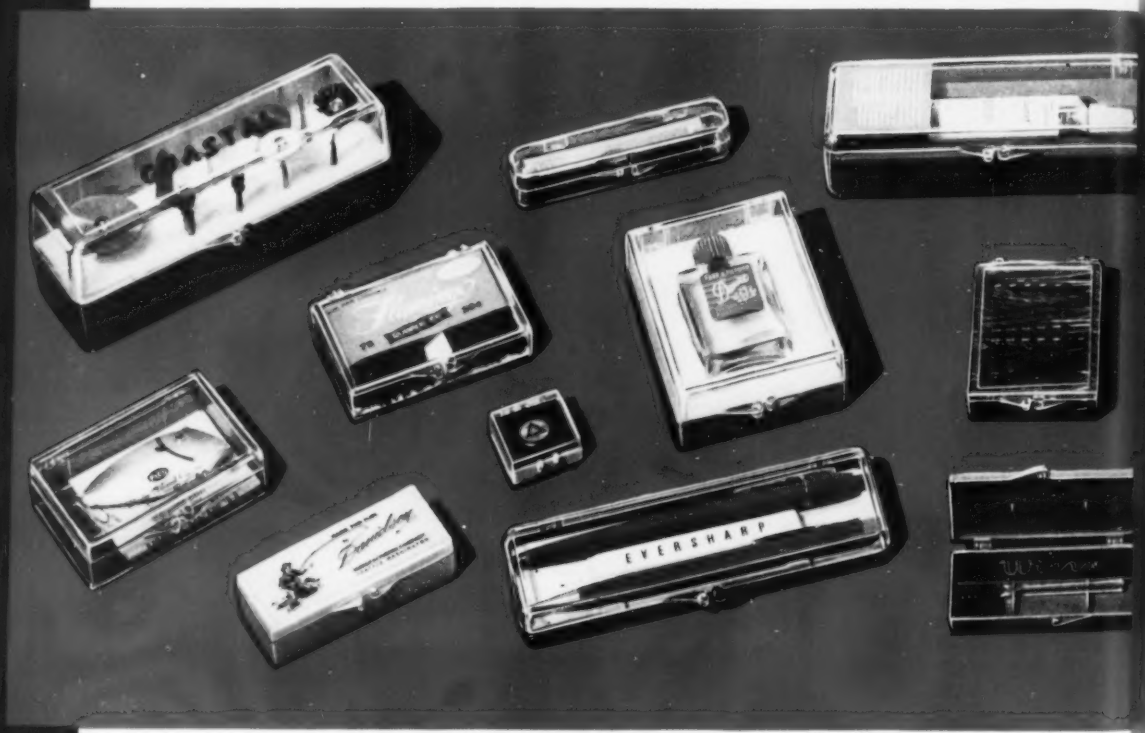
The Applicator feeds fresh THERMOGRIP Adhesive from coils at just the speed, consistency and amount you need. Flip a switch 15 minutes before starting and turn off at the end of the day — no clean up, no mixing, no mess.

If you would like to enjoy this modern — better way of applying your adhesive, contact us right away.

United

SHOE MACHINERY CORPORATION
140 FEDERAL STREET, BOSTON, MASS.

Design for Self-Selling



- Meet the new trend of consumer "Self-Purchasing" with packaging that is **Sel Selling.** A rigid, crystal clear Diamond Plastic Box, properly designed for yo product will give it clarity, protection and sales impact-plus the self-sellabil it needs to win customers at the point-of-sale.
- From the world's largest assortment of stock plastic boxes most packaging pr blems can quickly and economically be solved. In addition, our prom dependable service and quality merchandise assures you of the finest in rig packaging at the lowest cost.
- Our packaging engineers stand ready to assist you in desig ing a distinctive package for your product without obligatio Illustrated catalog and price list sent upon request.

10,000,000 Boxes Maintained in Factory Inventory

SALES OFFICES

NEW YORK CITY
CHickering 4-8892

LOS ANGELES, CALIF.
DUnkirk 5-2297

CAMBRIDGE, MASS.
Klrkland 7-0670

CHICAGO, ILL.
DElaware 7-6932

BALTIMORE 16, MD.
MOhawk 4-8506

ST. LOUIS 5, MO.
PArkview 6-0296

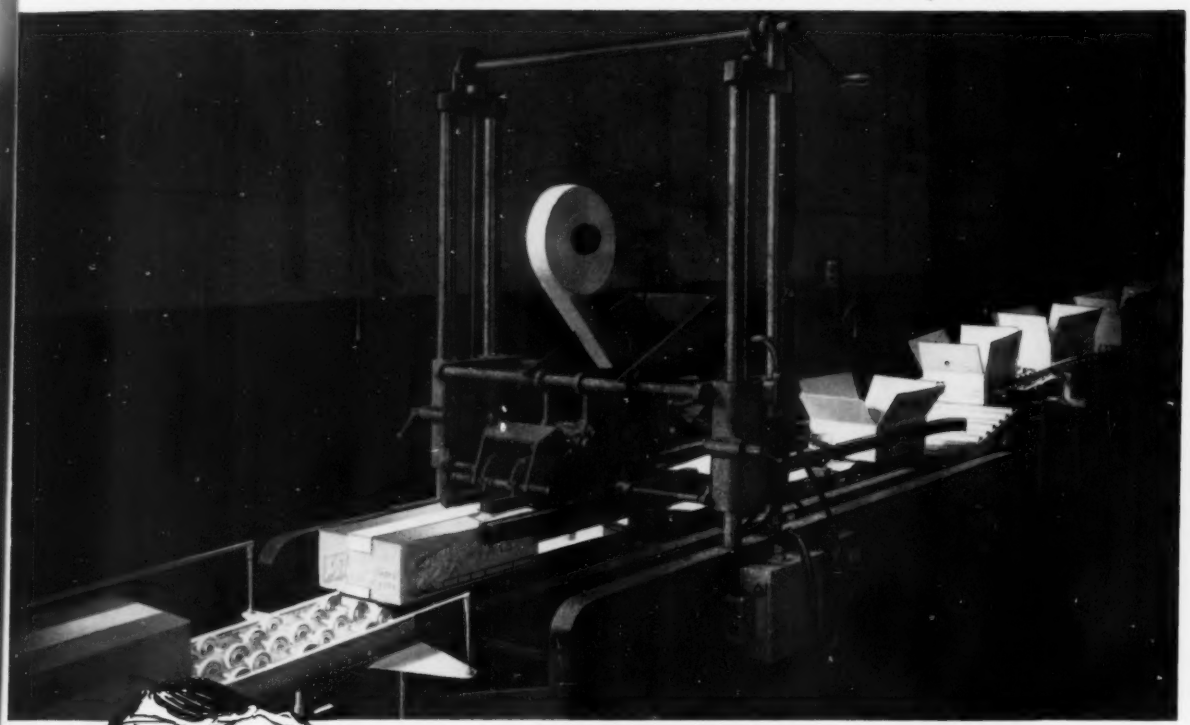
Diamond Plastic Box

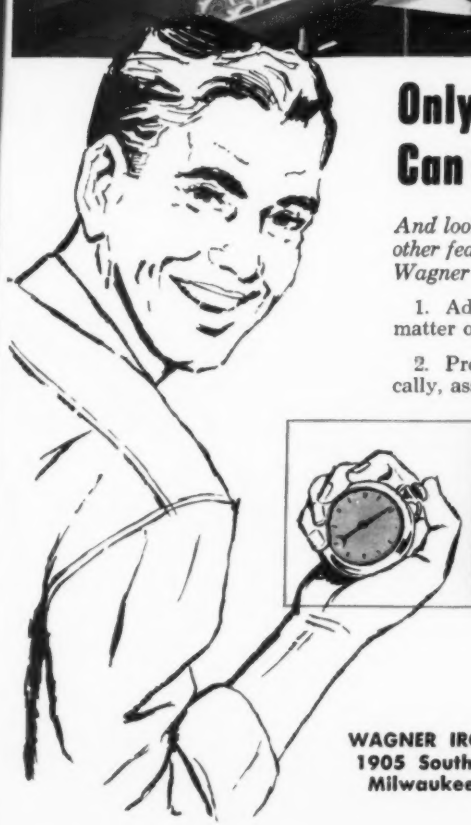
P. O. BOX 326 • ROANOKE, VIRGINIA • PHONE 3-2456

THE WORLD'S LARGEST MOLDER OF SMALL PLASTIC BO

Only Machine that Automatically Tapes Over 2000 New or Re-use Cartons Per Hour

...and reduces labor costs as much as 80%, too!





Only the WAGNER M-20 Can Guarantee Performance Like That

And look at just a few of the other features built into every Wagner M20—

1. Adjusts to any carton size in a matter of seconds, not minutes.

2. Proper tape length cut automatically, assures neat cartons every time.

3. Exclusive wipe down and compression assembly.

4. Rugged construction assures many years of trouble-free service.

It will pay you well to get complete information about the most modern taping machine on the market today.

waqner *M-20* TAPING MACHINE

MAIL COUPON TODAY FOR FULL INFORMATION

WAGNER IRON WORKS
1905 South 1st Street
Milwaukee, Wisconsin

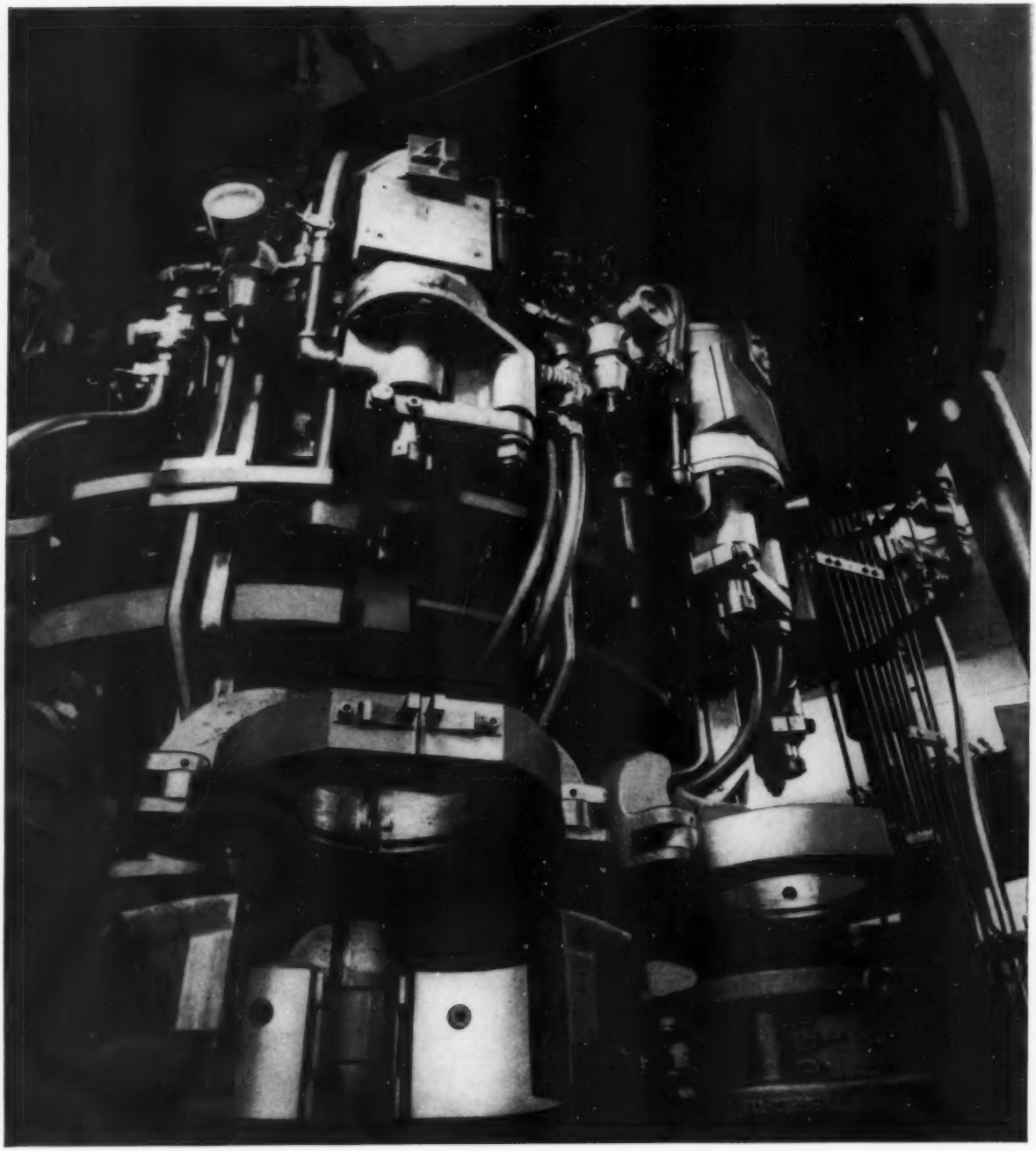
WAGNER IRON WORKS
Milwaukee 1, Wisconsin

Please send complete information about the Wagner M-20 Taping Machine

NAME .....

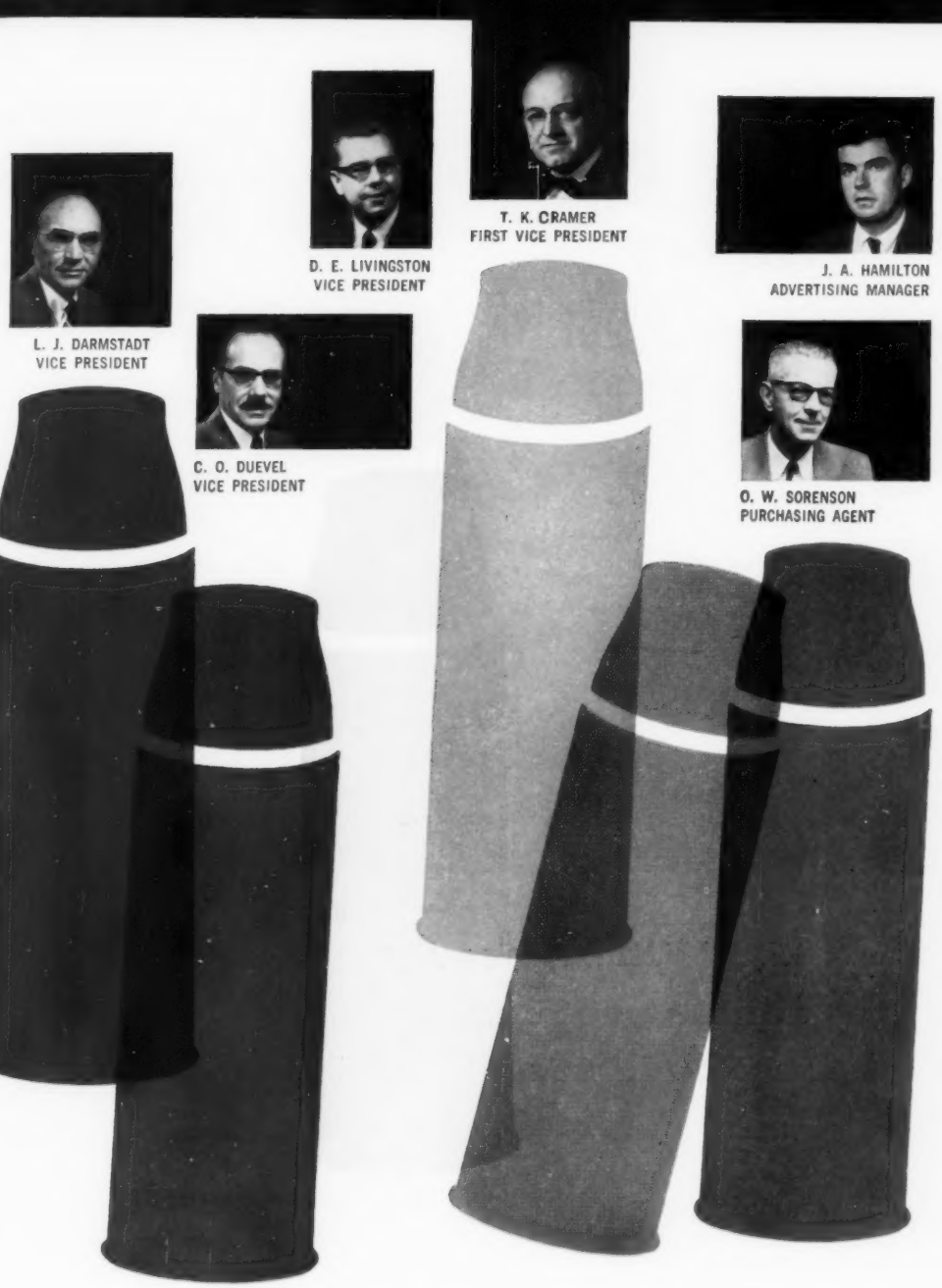
ADDRESS .....

CITY .....



A NEW ENGINEERING BREAKTHROUGH in glass-making has been achieved by Knox engineers and scientists in the design and development of this new JK Machine. Another example of planned progress at Knox, the new JK is now furnishing Knox customers with more precise, more even-walled containers. It can also produce high-strength light-weighted glass. Its new standard in flexibility allows it to efficiently furnish wide-mouth containers in almost any size, in any quantity, to any specification. For more information, contact:

KNOX GLASS INCORPORATED · KNOX, PENNSYLVANIA



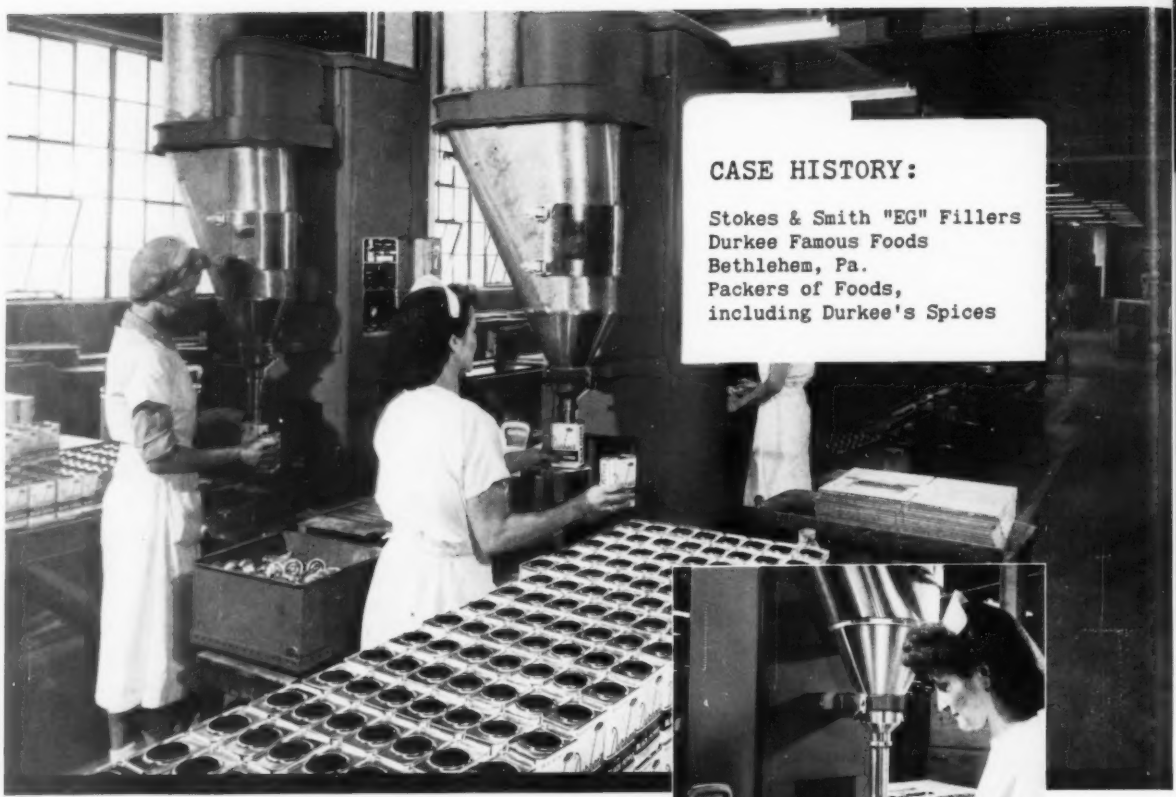
research, production, sales, management, advertising, purchasing

Packaging Committee at American Thermos Products Company

The American Thermos Products Company committee must take into account a relatively fragile product, distribution through many types of retail outlets, seasonal sales peaks. Nearly every business has its own specialized packaging problems. Almost always, the experience of other companies with similar needs is helpful. Most packaging committees welcome the contributions of their packaging supplier. A sound reason, if you use folding boxes, for considering Federal Paper Board... where knowledgeable packaging men are ready to turn some of the industry's most impressive production facilities to your advantage.

FEDERAL PAPER BOARD COMPANY, INC.

SEVENTEEN BOARD MILLS AND CARTON PLANTS FROM THE ATLANTIC SEABOARD TO THE MISSISSIPPI RIVER • EXECUTIVE OFFICES: BOGOTA, NEW JERSEY



CASE HISTORY:

Stokes & Smith "EG" Fillers
Durkee Famous Foods
Bethlehem, Pa.
Packers of Foods,
including Durkee's Spices

Operator spot checks package weight. Dependable accuracy of "EG" Fillers has eliminated "shrinkage" caused by overfilling.

"EG" Fillers nearly double production while slashing "shrinkage."

"Since we replaced our filling equipment with Stokes & Smith "EG" Fillers, we've almost doubled production with no increase in the number of machines," reports Durkee Famous Foods, Division of Glidden Company. "At the same time, 'shrinkage' has been substantially reduced because filling is accurate."

"Besides saving us money, the machines have made it possible for us to increase our range of containers. Without complicated changeover, we now fill eight ounce cans, 16 ounce cans and glass, five pound cans and six pound sizes in cans and cartons."

In addition to handling a wide variety of container types, the "EG" Filler offers four filling methods to meet specific requirements – cam controlled auger, pressure packing, gross weight or combination auger-vacuum. Extreme flexibility and quick changeover make this unit ideal for short runs and off-size containers.

FOR COMPLETE INFORMATION, ASK FOR BULLETIN P-802-R.

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

FMC Packaging Machinery Division

Stokes & Smith Plant

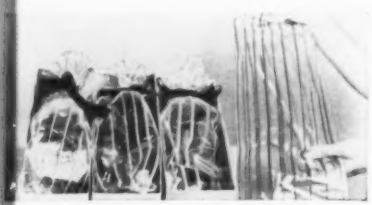
4904 SUMMERDALE AVENUE, PHILADELPHIA 24, PA.

U.S.I. POLYETHYLENE NEWS

A series for plastics and packaging executives by the makers of PETROTHENE® polyethylene resins

Packaging Notes

Colorful striped polyethylene film makes possible unique package creations. Produced from U.S.I. PETROTHENE resins by a midwest extruder, the film is competitive with printed striped film in price. Unlike printed film, the film with extruded stripes looks equally attractive on both sides. The color will not rub or wear off.



Polyethylene film — with extruded-in stripes that won't rub or wear off — is equally attractive on either side and can be obtained in a raised or embossed effect to provide a rich feel.

The film is produced generally as a clear film with stripes of any single color. It is also possible to produce two different color stripes, or to construct a die to produce alternating stripes on a clear background, or even to obtain a three color effect. Translucency or transparency of the colors can be varied as desired. A raised or embossed effect is also possible. The film is made with standard extruders which have been modified considerably to make possible the fusing of two or three different color streams within the die.

The film is produced as tubing in production thicknesses ranging from 1.25 to 10 mils. It is expected to be used for novelty packaging of candy, cosmetics, stationery, some soft goods, toys, cotton balls and other drug items, and certain foods.

Transfer labeling of poly squeeze bottles is being done at savings of 75% in printing costs by means of a new direct thermal transfer method. The transfer labels are printed on a kraft paper carrier. Heat and pressure applied by a special machine transfers the legend to the squeeze bottle.

The method is said to combine the attractiveness and durability of preprinting with the versatility and economy of labeling. The transfer unit can be mounted on any standard wrapping, bundling or bagmaking machine.

New machine forms and heat-seals polyethylene-coated blanks to produce cartons and trays which are highly resistant to grease and moisture without the need for liners. The machine operates at speeds up to 180 or more units per minute. It is designed for packaging cookies, crackers, fig bars, confections, frozen foods, cosmetics, cigarettes, vegetables and other products.

Comprehensive Guide to Polyethylene Processing Completed by U.S.I.; Copies Now Available

100-Page Guide Covers Molding, Extrusion and other Problems

U.S.I. has just released a useful, comprehensive booklet on polyethylene processing. The 100-page booklet "PETROTHENE® Polyethylene . . . A Processing Guide"—is based to a large extent on research carried out by U.S.I.'s scientific staff and on experience gathered by its technical service engineers.

Abundantly illustrated, the booklet stresses practical shop information throughout, with only as much basic scientific theory as is needed to make the practical material readily understandable. The booklet discusses polyethylene properties, routine quality control tests and the various techniques for processing polyethylene—film and profile extrusion, extrusion-coating of paper and other substrates, wire and cable coating, injection molding, bottle blowing, thermoforming and others, along with related subjects such as heat sealing and film printing.

The booklet is filled with pages of invaluable shop advice for all types of processors. Many paragraphs are devoted to such specific problems as the causes and prevention of wrinkles in blown film, factors affecting the quality and economics of heat sealing, the machine conditions and resin properties which result in minimum "neck-in" and beading in paper coating and the effect of resin type and mold characteristics on cycle time or warpage.

"PETROTHENE® Polyethylene . . . A Processing Guide" is now available free to processors and convertors. For your copy, write to Editor, U.S.I. Polyethylene News, U. S. Industrial Chemicals Co., 99 Park Ave., New York 16, N. Y.

Poly-Coated Corrugated Board Now in Commercial Production

Poly-coated corrugated board is now available for the first time. The problem of high temperatures on the corrugator has been avoided by extrusion-coating the liner board at the mill level and using a cold adhesive for corrugating.

Photo courtesy Mead Board Sales Co.

Corrugating line on which polyethylene-coated corrugated board is now being produced.

Among the applications for corrugated poly-coated containers are:

Bulk shipment of meat, where moisture and grease-proof interiors reduce weight loss of the meat and eliminate loss of container strength through moisture pickup;

Shipment of furniture and other hard goods, where abrasion damage from the container has been a problem;

Bulk bakery and confectionary shipments, where absence of greasewickage makes containers suitable for reuse or use as point-of-sale displays;

And in concrete construction forms, with the poly coating acting as a release agent.

Tests Show Many Aromatics Can Be Packaged In Poly

A two-year study has shown that a large class of essential oils can be packaged in polyethylene containers with little or no permeability loss.

The tests showed that oils of high viscosity and low terpene content experienced little or no weight loss.

In this group were such aromatics as Oil Bois de Rose; Oil Cassia Rectified; Oil Citronella Java; Oil Coconut Edible, N. F.; Oil Geranium Algerian; Oil Lignaloe Wood, Mexican; Oil Vertivert Bourbon; Oil Patchouly Penang; Oil Sesame U.S.P.; Oil Ylang Ylang; and Oil Almond Sweet expressed U.S.P.

From these, fragrance compounds have been developed for use in poly-packaged anti-perspirants, creams, lotions, and shampoos.

Cleveland OK's Plastic Pipe

The city of Cleveland has amended its building code to permit the use of plastic pipe for street-to-house water service lines. The decision was made after plastic pipe easily passed rigorous pressure, temperature and torsion tests.

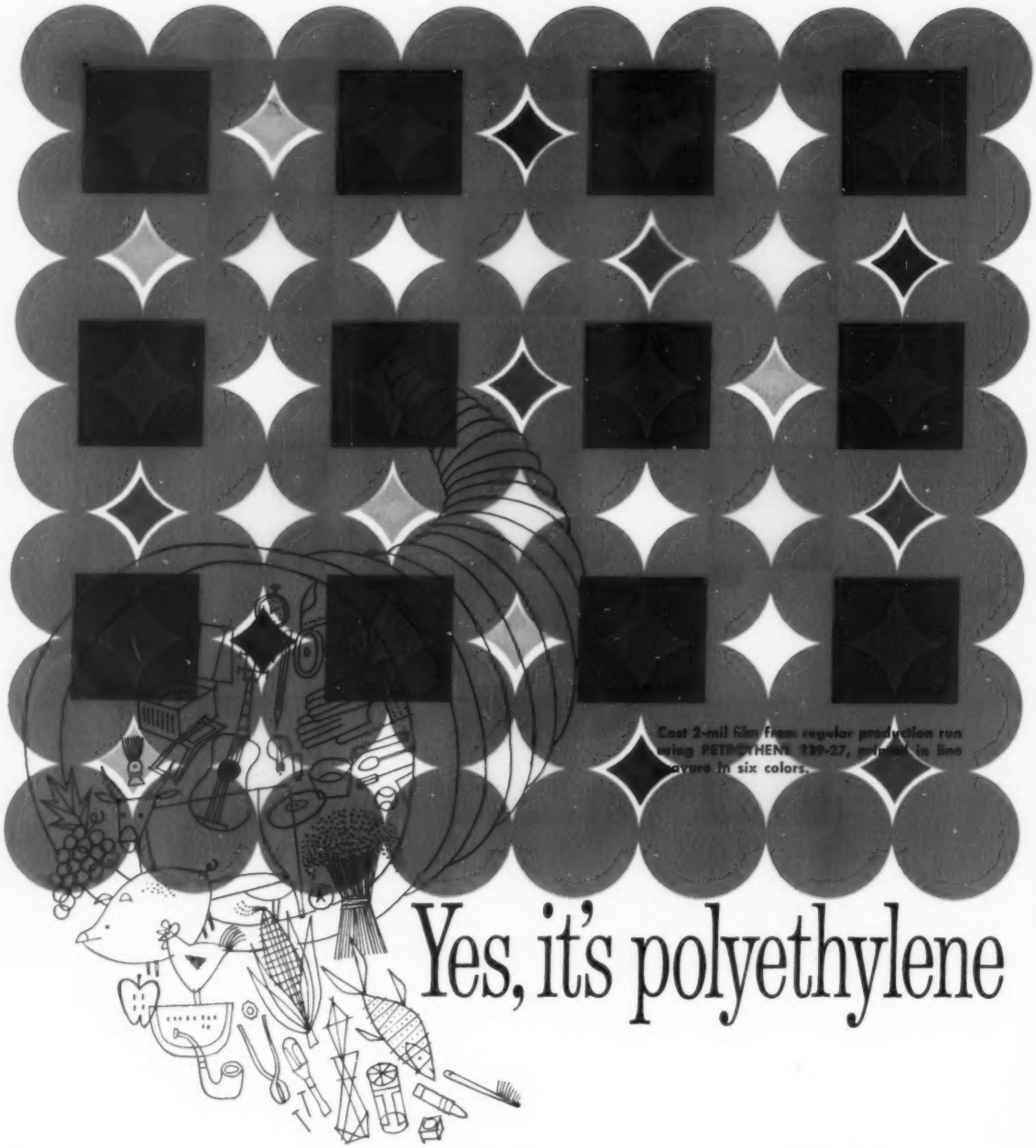
Plastic pipe is considered ideal for street-to-house water lines, which do not involve high pressure or extreme temperatures. It costs half as much as copper tubing and costs less to install.

Air Flow Problems?

U.S.I. Technical Service has a portable air velometer capable of measuring up to 10,000 feet per minute. If you have a problem involving air flow, indicate this with your request for technical service so the U.S.I. engineer can have the instrument available when he calls.

DO YOU HAVE a new polyethylene packaging development you'd like the industry to know about? Make it routine to send your information on new developments to U.S.I. POLYETHYLENE NEWS.

Address the Editor,
U.S.I. POLYETHYLENE NEWS, U. S. Industrial Chemicals Co., Division of National Distillers and Chemical Corp., 99 Park Avenue, New York 16, N. Y.



Cast 2-mil film from regular production run using PETROTHENE 939-27, printed in line engrave in six colors.

Yes, it's polyethylene

Add brilliant printability to the clarity, toughness and other well-known advantages of polyethylene film, and you have a packaging material that can be a powerful merchandising tool for your products. Polyethylene film can be economically printed with clear, bright colors at high speeds and with sharp registration and good ink adhesion. Packages can be formed on automatic equipment—sealed by heat-sealing or with adhesives.

Opens New Packaging Film Markets

Package designs that combine sparkling, multi-color printing with polyethylene film's clarity open up new packaging and merchandising opportunities for you. Printed film is now being used for dry-cleaning garment bags, produce packaging, soft goods overwrap, dairy and meat packaging, laundered shirt packaging, and many special purpose applications where visibility, eye-catching color, and protection can be combined in a single package to give the product maximum sales appeal.

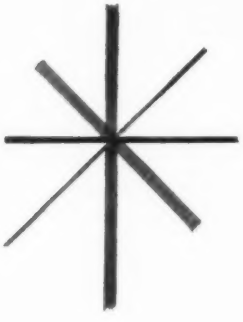
When you investigate the merchandising possibilities of printed polyethylene film for your packaging needs, ask your supplier about the special advantages of film made from U.S.I. PETROTHENE® polyethylene resins. In addition to excellent printability, these films offer greater clarity at a given strength (or greater strength with no loss in clarity). PETROTHENE-made films are available in a wide range of thicknesses, with a combination of special properties to meet your every packaging need. Your supplier will be happy to advise you about them.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N.Y.
Branches in principal cities

Make your products stand out from the crowd with

Labels by Steigerwald

Fine labels of all kinds at reasonable cost



Send us your labels for redesign, without charge or obligation; or ask for our estimate on printing your present labels. Telephone, wire or write to any representative below or to A. M. Steigerwald Co., 910 W. Van Buren, Chicago 7. Telephone TAylor 9-5400.

CINCINNATI 27, O.
Stollmaier & Son, Inc.
Mariemont Center Bldg.
Bramble 1-0222

DETROIT 3, MICH.
Harry W. Hogg
20157 Greeley Ave.
Diamond 1-3848

LOUISVILLE, KY.
Practical Products Co.
319 Jefferson St.
Juniper 7-1257

CLEVELAND 14, O.
A. C. Foster
1747 Chester Ave.
Cherry 1-2468

KANSAS CITY 5, MO.
A. B. Mason
905 Jefferson St.
Victor 2-6580

MILWAUKEE, WIS.
H. C. Lackowski
8849 So. 76th St.
Garden 5-5850

MINNEAPOLIS, MINN.
J. E. & J. L. Moor
3329 Dupont Ave., So.
Taylor 4-5309

ROCKFORD, ILL.
Blackhawk Paper & Cordage
630 Cedar St.
4-5261

NEW YORK 25, N. Y.
John H. McLaren
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ST. LOUIS 5, MO.
Marvin Yates Co.
111 So. Bemiston Ave.
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GH SILVER EMBOSSED • DIE-CUT OR SQUARE • FOIL SEALS AND TAGS • FLAT OR CONTINUOUS ROLLS • FOR HAND OR AUTOMATIC USE • HEAT SEAL • PRESSURE SENSITIVE • SPECIAL ADHESIVES

Cast 2-mil film from regular production run using PETROTHENE 239-27, printed in line gravure in six colors.

Yes, it's polyethylene

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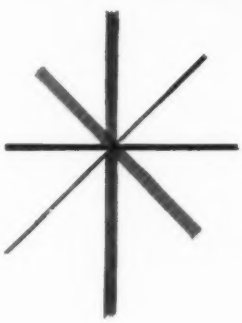
Labels by Steigerwald

Fine labels of all kinds at reasonable cost



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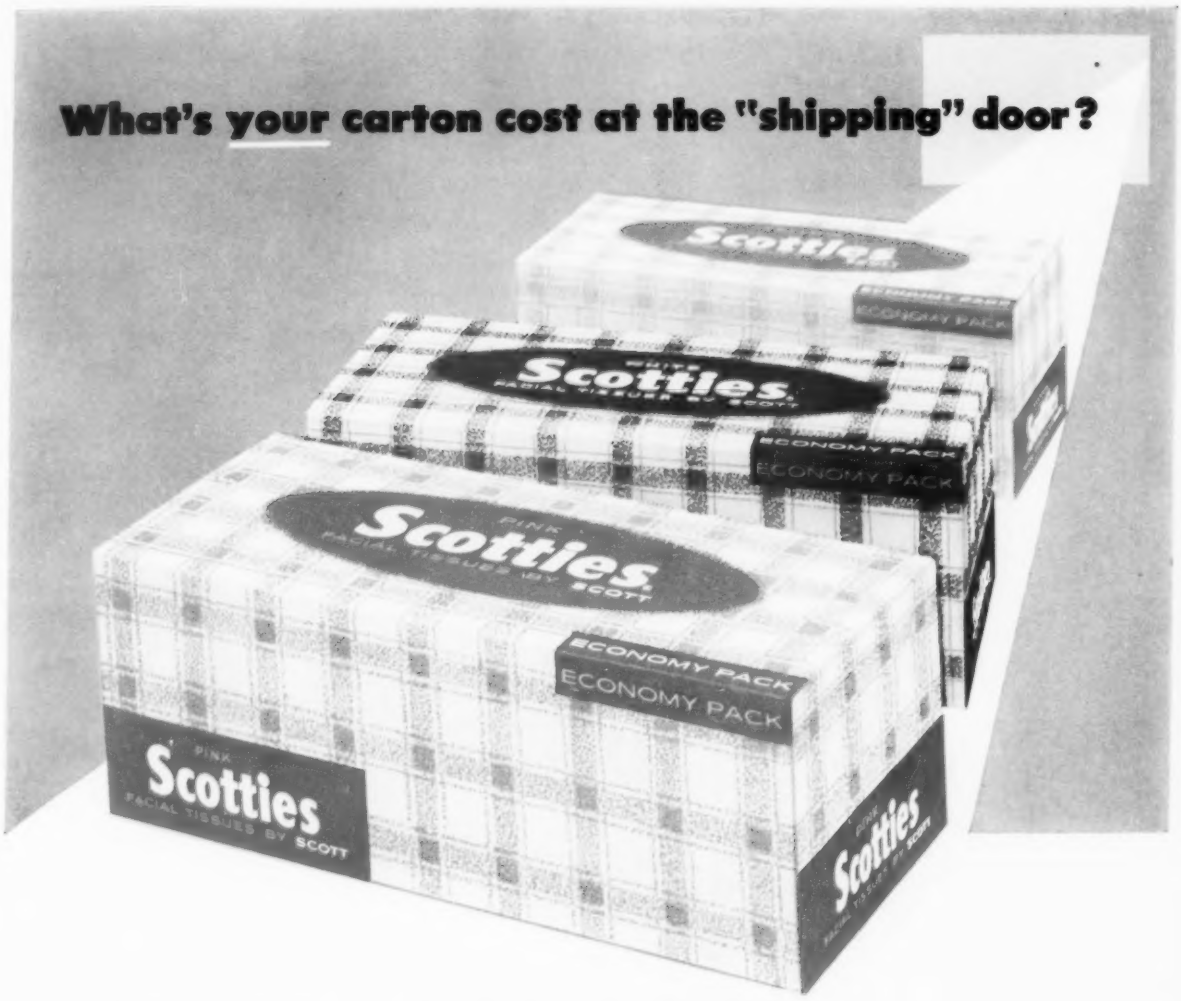


Planned Packaging

...helps Scott Paper Company keep theirs low!

For over 5 years, Ohio Boxboard has been an important carton supplier to Scott Paper Company. Carton performance on high speed packing lines for popular Scotties facial tissues has been outstanding.

Our ability as Planned Packaging experts to design and deliver sure-folding cartons that are *truly* low cost as they leave your all important shipping door has been demonstrated over the years.

Whether you need improved styling or faster running cartons, Planned Packaging experts will gladly serve you —even to the design and construction of special machinery for utmost packaging efficiency. Just write or call.

Planned Packaging moves merchandise.

The Ohio Boxboard Company
Rittman, Ohio
Containers • Cartons • Paperboard

PLANTS
The Ohio Boxboard Company, Rittman, Ohio
Empire Box Corporation, South Bend, Indiana
The General Carton Company, Cleveland, Ohio
The Norwalk Paper Box Company, Norwalk, Ohio
The Ohio Boxboard Co., Inc., Pittsburgh, Pa.
Western Containers, Inc., Lockport, N. Y.
Fairbanks Containers, Inc., Middletown, Ohio
Champion Containers, Inc., Plymouth, Michigan
The Ohio Boxboard Company, Cuyahoga Falls, Ohio
The Ohio Boxboard Company, Youngstown, Ohio

Bottles blown by
Royal Manufacturing Company, Inc.,
Prescott, Arizona.

For colorful, glossy containers ...it's TENITE POLYETHYLENE

Whatever you have to package—liquid, cream or solid—there's a good chance containers made of colorful Tenite Polyethylene can help you send your product to market safely, attractively and economically.

Safely, because many sensitive cosmetics, foods and drugs can be entrusted to this chemically inert plastic. Safely, because containers of Tenite Polyethylene are practically unbreakable during filling, shipping and use.

Attractively, because you have an unlimited choice of colors in styling your package. Attractively, because of the high degree of gloss that characterizes Tenite Polyethylene.

Economically, because of the intricate designs that can be executed at low cost. Economically, because these lightweight containers cut shipping costs.

Tenite Polyethylene is extremely easy to form into containers of almost any shape and size. It can be blown into bottles, injection molded for jars and boxes, or extruded for collapsible tubes and "squeeze-cans."

If you have a packaging idea that could be given sales-stimulating reality in polyethylene, investigate the colorful formulations available from Eastman. For more information on this plastic or for your copy of our new 40-page Tenite Polyethylene booklet, write EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

Tenite Polyethylene has many jobs in packaging

Tough **FILM** with high clarity and high gloss

Heat-sealable **COATINGS** for paper, film or foil

Tight-fitting **CLOSURES** that resist corrosion

Colorful **CONTAINERS** ...virtually unbreakable

TENITE
POLYETHYLENE
an Eastman plastic

Polyethylene bag extruded and printed for Spada Fruit Sales Agency, Inc., Tampa, Fla., by Texas Plastics, Inc., Elsa, Texas
Polyethylene-coated freezer paper manufactured by Ludlow Papers, Inc., Homer, La. • Polyethylene caps molded for use on Ipana toothpaste containers
Polyethylene utility boxes molded by Werner Manufacturing Company, Brookfield, Ill.

BEST OF THE SHOW AGAIN!

1958

Top Award-Winning Package

Printed with BBD

Speed-E-Brite Flexographic Ink

For the second straight year the President's Award of the National Flexible Packaging Competition—the converting industry's highest honor for flexible packaging excellence—has gone to a package printed with a BBD flexographic ink. The package also won First Awards in the "Polyethylene Bags and Pouches" and "Soft Goods, Wearing Apparel" divisions of the contest. The award-winning package was an extremely complex 6-color printing job which called for exceptionally high-quality reproduction and close teamwork between the converter and designer—Paramount Packaging Corporation of Philadelphia and Chicago, and BBD—their ink maker. Multi-color trapping, close register, very fine line detail and subtle shadings made the package more difficult to print than day-to-day work . . . and required an ink that could preserve the delicate quality of the design. The results achieved are proof of the quality of BBD flexographic inks and the skilled personalized service of BBD flexographic ink specialists.

CONGRATULATIONS . . .

PARAMOUNT PACKAGING CORPORATION for your President's Award package. BBD is proud to have played a part in helping this leading flexible packaging converter produce a prize-winning, sales-making package.

SPEED-E-BRITE, the ink used on the President's Award package, is a low-viscosity ink combining high color strength and excellent gloss . . . outstanding for printing polyethylene film and other popular packaging materials. For sample prints and free Technical Data Sheet call your nearest BBD office or write Bensing Bros. & Deeney, 3301 Hunting Park Ave., Philadelphia 29, Pa.

Sun

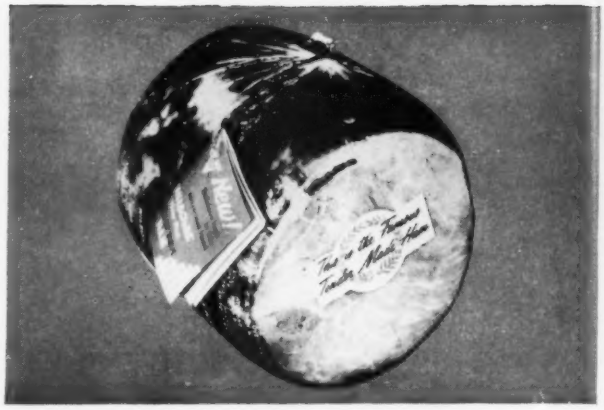
Bensing Bros. and Deeney *Flexographic Ink Specialists*

A subsidiary of Sun Chemical Corporation

PHILADELPHIA • CHICAGO • SAN LEANDRO, CAL. • CAMBRIDGE, MASS. • MONROE, LA. • TORONTO

Sun Chemical's Graphic Arts Group: GENERAL PRINTING INK *Gravure, Letterpress, Offset Inks and Supplies* GEO H. MORRILL *Newspaper Inks*
BENSING BROS. AND DEENEY *Flexographic Inks* RUTHERFORD MACHINERY *Lithographic Equipment*

PAPER GOODS. "Mylar" makes the ideal overwrap for paper goods because of its glittering clarity, durability, long shelf life and handling efficiency.



MEATS AND POULTRY. Strong, brilliantly clear, heat-shrinkable "Mylar" HS offers the ultimate in color retention and freshness protection for ham, tongue and poultry.

VERSATILE

FOOD. For impulse food items, "Mylar" creates irresistible sales appeal with dazzling transparency. Its super-toughness, long-lasting protection and durability give "Mylar" a combination of advantages offered by no other packaging material! "Mylar" can be dramatically printed to highlight product attractiveness, add extra sales appeal.

TOYS AND HARDWARE. "Mylar" combines puncture proofness with the selling power of true transparency for hard-to-pa kage toy and hardware items.

VACUUM PACKAGING. "Mylar" combined with polyethylene is the most effective material ever developed to maintain the color and freshness of luncheon meats and cheese.

MYLAR®

Here's why more and more packagers are using this durable clear film for tough packaging jobs

Du Pont's versatile polyester film, "Mylar"*, means many things to many people. The packager of sharp or pointed items thinks of "Mylar" as the *only* puncture-proof packaging material that also displays his product in a dazzling transparent showcase. Meat and food processors think of "Mylar" in terms of added sales appeal resulting from smooth, skin-tight packages and sparkling transparency.

Scores of other packagers rely on "Mylar" to add more sales power to their products. Perhaps "Mylar" could do a similar job for you. Your Du Pont Representative will gladly give you full details. Call him today, or write: E. I. du Pont de Nemours & Co. (Inc.), Film Department, Wilmington 98, Delaware.

*"MYLAR" *is Du Pont's registered trademark for its brand of polyester film. Du Pont does not print, make bags or pouches of "Mylar".*

TEXTILES. Clear "Mylar" has amazing tear strength, durability, long life. You can understand why smart textile manufacturers merchandise "Mylar" in their advertisements.

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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

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POLYESTER FILM

"Carter's Carded Specialties sell faster in BLISTER PACKAGING OF CELANESE ACETATE"

says William M. Fletcher, *Sales Manager*
The Carter's Ink Company

"Protect . . . guard against pilferage . . . keep merchandise factory-fresh . . . create impulse buying by self-selling"—these are the reasons The Carter's Ink Company uses Celanese Acetate for blister packaging of their ink specialties.

"Ready for counter action, faster turnover, and tie-in sales," adds Carter's, of these hard-selling displays that utilize the gleaming transparency, and the proper strength, rigidity, toughness, and economical formability of sparkling Celanese Acetate.

You, too, will find that Celanese Acetate sheet can create sales—and create economies, all the way from your production line to consumer. It can meet all the requirements of a mass-production thermoforming operation (as many as five blisters a second, 300 packs a minute, have been formed of Celanese Acetate in a typical packaging operation). If you are now using or considering blister packaging, it will pay you in more ways than one to investigate Celanese Acetate. Write Celanese Corporation of America, Plastics Division, Department 108-L, 744 Broad Street, Newark 2, N. J.

Celanese®

Celanese plastics

Canadian Affiliate: Canadian Chemical Company Limited, Montreal, Toronto, Vancouver.
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Look at the clarity of this soft goods package made from a Spencer 2400 Series "Poly-Eth" resin. These resins give you greater stiffness, too.

Draw-down to 0.5-mil or less is possible with "Poly-Eth" resins 2476, 2477 and 2486. These resins are custom-designed for garment bags.

No other .925 density polyethylene resin gives you

More Clarity, Better Draw-Down

. . . and Spencer's 2400 Series lets you choose the melt index and slip that are best for your needs.

If you make or use film for soft goods packaging or for garment bags, you should know the facts about Spencer Chemical Company's 2400 Series of "Poly-Eth" Polyethylene resins.

No other polyethylene resin in the .925 density group can give you more clarity or easier processing. And these Spencer resins give you other special advantages, too.

Designed for flat film extrusion, either water bath or chill roll, these resins offer you a variety of properties to fit any specific requirements. For example, you have a melt index choice of two, four or eight. Grades are available with low, medium and high slip.

All of these resins are especially designed for soft goods packaging. By actual comparison, this film is up to twice as clear as conventional polyethylene film, and it has a higher gloss. In addition, "Poly-Eth" 2400 series resins make a very stiff film, suitable for many overwrap applications. It's easy to feed into bag machines, and finished bags are easy to stack.

For garment bag film, "Poly-Eth" resins 2476, 2477 and 2486 are tailor-made for gloss, draw-down and stiffness. The film has excellent printing and heat sealing properties, too.

Even with all these advantages a "Poly-Eth" 2400 series resin costs no more than regular polyethylene. So, if you're an extruder, get the complete facts from your Spencer representative. If you are a converter or a package user, be sure to ask your supplier for film made of Spencer "Poly-Eth."

Product	Melt Index	Slip
"Poly-Eth" 2405	2	Low
"Poly-Eth" 2425	2	Medium
"Poly-Eth" 2455	2	High
"Poly-Eth" 2476	4	Medium
"Poly-Eth" 2477	8	Medium
"Poly-Eth" 2486	4	High

Poly-Eth by SPENCER

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FIBREBOARD packaging for frozen foods

Your frozen foods travel better, **economically,** in Fibreboard containers. Folding cartons of every size and style. Corrugated and solid fibre shipping cases.

Advantages? You get many when you're served by the West's largest manufacturer of paperboard packaging. Your cartons and cases are faultlessly printed on the newest modern presses. You receive market and package research . . . structural and graphic design . . . equipment development and counsel . . . dependable supply and service. And people . . . experienced people near you to work with you.

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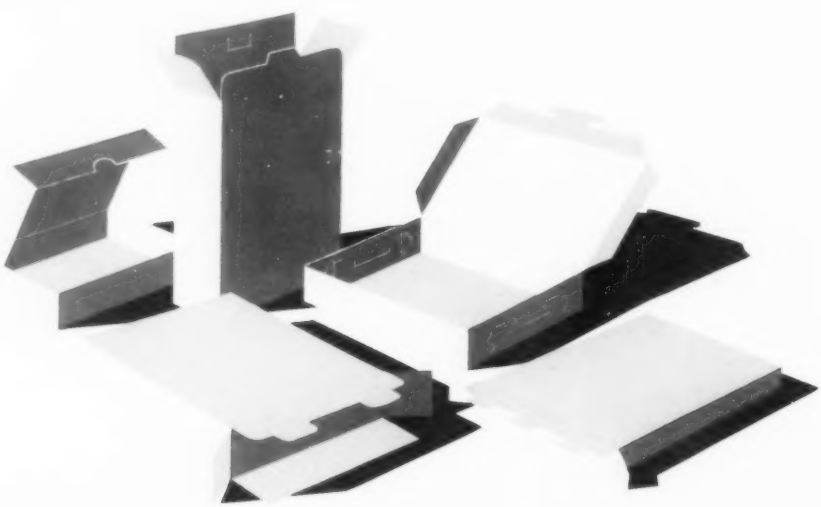

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Insecticides are deadlier than ever, and insecticide sales prove it. Responsible for this new selling surge is the aerosol can, more convenient and more efficient. Of the more than 41 million cans sold in 1957, Continental supplied a large part. It was Continental, remember, who developed the low pressure aerosol that started this fabulous market on its way. For your insecticide, you can't do better than a superbly lithographed Continental aerosol. Because of its experience, Continental is able to produce aerosols at a most economical price . . . and give you the widest selection in size and style. Greatly expanded production facilities assure you of fast delivery wherever you're located. Research and engineering services are also available. Call Continental today.

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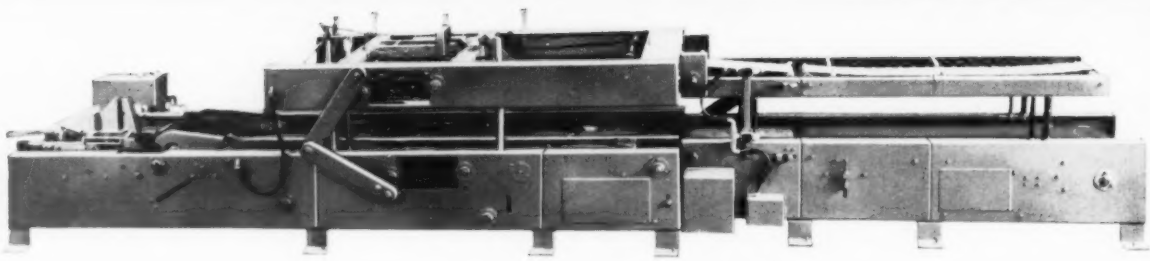
COST REDUCTION IS BUILT INTO THE REDESIGNED STANDARD-KNAPP GLUER & SEALER

Easily removable glue pots and rollers . . . identical glue pots and rollers for upper and lower application . . . no leakage of glue onto product . . . adjustable to a wide range of case sizes . . . speed up to 30 cases a minute . . . these are just some of the operational advantages of the redesigned Standard-Knapp Case Gluer & Sealer that will reduce your case closing costs. *Make sure you have complete specifications. Write for our bulletin.*



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STANDARD-KNAPP DIVISION
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Wish I'd thought of that...

And well he might, for here is imagination and packaging skill worthy of old St. Nick, himself!

Packages like these, clad in gay new holiday attire, will vie for attention with mountains of holiday packages in much the same way as *your* products compete for the consumer's attention each day in the market places of America.

Make certain your products wear their appealing holiday best all year 'round. Check your packaging, then check with your Diamond Gardner sales representative.

Meanwhile, best wishes for a very merry Christmas and a happy New Year to you and your family from the folks at Diamond Gardner.

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Paper needs the "touch of talent"

Vellum — a fine quality of parchment usually made of calfskin—was used in the 15th century, as paper for books . . .

. . . but it still took the talent of some long-forgotten monk to transform vellum into this lovely illuminated page from a contemporary Book of Hours.

COURTESY: BROWN UNIVERSITY LIBRARY

It is talent, above all, that transforms paper into a masterpiece—whether the work of a Renaissance master, or of modern-day craftsmen who convert paper for commercial uses

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NASHUA PACKAGING TALENTS AVAILABLE TO YOU . . . Creative Design • Paper Chemistry • Package Engineering • Coordinated Packaging • Quality Production • Procurement Versatility . . . Nashua Corporation, Nashua, N. H.

Featured in this issue . . .

Trend in glass containers: lighter weight with greater strength

A glass container as lightweight as a lamb bulb, but as strong as steel? Don't bet you'll never see it. It's the logical goal of what the glass-container industry calls "rightweighting"—minimizing the bulk while exploiting the relatively untapped inherent strengths of the material. Today, for the third time since 1930, glass makers (spurred by spiraling shipping costs and the competition of lightweight packaging materials) are slashing the avoirdupois from their containers. They are aided by new designs and better molding techniques. An indication of things to come is the introduction of a sturdy throw-away beer bottle weighing only 5½ oz., compared with 15 oz. for the returnable beer bottle of the 1930s and with 7 oz. for the lightest previous throw-away. Significant, too, is the recent formation of the Glass Container Industries Research Corp., created by 17 glass makers to support a cooperative research program for the development of lighter-weight, more durable glass containers.

See "Glass Goes Lighter Still," p. 75

Fibre drums: industry improvements broaden their utility

Year by year, the fibre-drum industry continues to built solid peacetime progress on a foundation of gains achieved in meeting emergency demands caused by metal shortages in two wars. This supplier industry has produced an unending series of improvements on the basic container that have broadened fibre-drum applications from dry, powdered items to semi-liquid and now liquid products. The success of these improvements is documented in the production figures. Fibre-drum output in 1940 was 3,500,000 units. In 1957 it was 26,200,000 units. But this industry's biggest growth period is still ahead, even though the use of fibre drums has been vastly broadened by developments in polyethylene laminations, drum-winding and impregnating methods, and improved decoration techniques. New research in construction, linings, fittings and handling equipment should soon bring forth even more functional and economical drums that may solve the problems of handling difficult products.

See this month's Supplier-Industry Survey, "Fibre Drums," p. 88

New heat-shrinkable polyester film for pre-packaging perishables

Here's the story of a pioneering technique that may eventually obviate in-store packaging of poultry and other perishable products. Simple and effective, it incorporates a new, heat-shrinkable coated polyester film and a new automatic packaging machine for wrapping cut-up and trayed poultry. The crystal-clear 0.4-mil polyester film making its commercial debut in this application is reported to have a good packaging potential. Possessing excellent dimensional stability and strength, it withstands the rigors of refrigerated shipment and storage—as well as supermarket handling—without cracking, wrinkling or relaxing its tight, smooth appearance. In this application, the snugly wrapped poultry—with storage life of more than a week—is packed for shipment in waxed and foil-laminated cartons. For the full details, ***Don't miss "A New Shrinkable Polyester," p. 92***

Economical metalized paper gets first commercial test

For the army of packagers whose wraps do not require strength or barrier properties, there's a promise of big economy in metalized paper. It's the result of a recent scientific breakthrough by which vacuum deposition of an aluminum coating only 4 one-millionths of an inch thick transforms paper into a wrapping material virtually indistinguishable

from foil, but using only a fraction of the metal. Obviously, such a coating provides substantial savings in material costs while adding almost nothing to the basis weight of the paper. Metalized on one side only, the material combines the easy printability of paper with the decorative appeal of gleaming foil. Its first commercial application is in printed bags for ice-cream bars made by Bresler Ice Cream Co., Chicago.

Get the details in "Metalized Paper is Here," p. 82

Coming: a workable set of standards for polyethylene film

Very soon now, everyone who works with polyethylene film or tubing will have a single handy guide to the qualities and properties of the material. It is a proposed polyethylene standard that for the first time will provide a hallmark of compliance and assure packagers of consistent film quality. Sponsored by the Polyethylene Flm Committee of The Society of the Plastics Industry, the proposed standard has cleared every preliminary hurdle and is now before a jury of several hundred resin producers, extruders, converters and users. If a majority approves, this first workable set of standards for polyethylene film will be authorized by the Secretary of Commerce. For a rundown of the specified film properties and why they were adopted in the standard,

Turn to "Polyethylene Standard Takes Shape," p. 98

Machines in tandem speed case output of six-pack cartons

Like all packers of seasonal products, Libby, McNeill & Libby must produce a full year's inventory in a short span of time. For its 5½-oz. cans of tomato juice, this packer does the job in eight weeks—and sends the product to market in sales-promoting six-packs. To meet this production schedule with a minimum of down time and without an increase in personnel, Libby has stepped up its case output by using two machines in tandem. The first is a six-pack cartoner that locks carton bottoms without gluing. The other is a caser of the type used for cartons of frozen or dried products, modified to handle six-packs quickly and easily without hand packing. The cartoner operates at 80 six-packs per minute; the caser at nine per minute.

Turn to "Six-Packs in a Hurry" p. 80

Liquor makers off on a Christmas gift-packaging orgy

Despite the costs, fancy gift packaging seems to be a Christmas-time habit the nation's liquor makers just can't swear off. And this year's binge includes bizarre containers that go far beyond the range of past ornamental decanters. There are ballerina dolls dancing in bottles containing concealed music boxes. There are ceramic barrels with tap spigots. There are Grecian urns and Pompeiian water vessels. There's even a decanter with a cap that can be re-used to hold cigarettes. And it doesn't end with the container. This year's wraps, bows and ribbons are among the most lavish ever. Why this elaborate splurge, despite recent efforts by the industry to get out from under? Consensus is that fancy decanters appeals to women, who are becoming increasingly important as gift buyers of liquor.

Read "Liquor Binge Bigger Than Ever," p. 102

More effective linings and coatings for plastic containers

The development of effective coatings and linings, which have already begun to appear in polyethylene containers, is certain to expand the entire field of packaging in plastics. At Bristol-Myers Co., a pioneer in this development work, extensive research indicates that a great many plastics can be lined or coated successfully to protect the product adequately and to maintain shelf life of two years or more. This technical report by Ralph H. Thomas describes the procedures for adapting the barrier properties of polyethylene and other plastic containers to a product.

See "Lining and Coating of Plastics," p. 119

How 'flying' corrugated cases support 350-lb. appliances

Every day at Hotpoint's Chicago plant there can be seen a dramatic demonstration of the adaptability of traditional shipping containers to the demands of modern appliance packaging and warehousing methods. Holding appliances that weigh up to 350 lbs. each, specially constructed corrugated cartons are taken on flying trips through the warehouse by huge overhead cranes that simply clamp or hook the upper edges of one or more boxes at a time. In transit through the air, the only thing between a heavy appliance and the floor far below is the interlocked or glued carton bottom. For this critical job—which subjects large appliance to a minimum of rough handling—Hotpoint uses two basic three-piece cartons for its more than 100 models. One is a cap-and-tube type; the other, a glued-flap carton. ***Read about them in "With the Greatest of Ease," p. 112***

December 1958
Vol. 32, No. 4
MODERN PACKAGING

PHOTO OWENS-ILLINOIS

GLASS GOES LIGHTER STILL

Determined to meet the challenge of competitors, glass scientists make significant gains

Three new equal two old on the scales today.

With freight rates going up on what seems to be an endless escalator, lightweight packaging materials, with improved properties and functions, are steadily improving their position on shipping cost alone. But the glass container, the long-time heavyweight champion, doesn't intend to take this challenge lying down.

Right now the glass-container industry is in the midst of a new round of lightweighting—the third since 1930. With improved designs and better molding techniques, the resourceful glass makers are finding ways to take off still more avoirdupois—in places where it will help, and not hurt, the function of the container. So important in this is the design of the container—the distribution of glass and the physical characteristics of the glass—that they prefer to call it *right*weighting.

Between 1930 and 1956, the average glass container shed a third of its weight. In the last two years, it has slimmed down another 20%. And an impressive indication of things to come is the introduction this year of a stubby, throw-away beer bottle weighing a mere 5½ oz., in comparison with 15 oz. for the heavy returnable beer bottle of the

PHOTO BROCKWAY GLASS CO.

1958 achievement—the stubby, short, throwaway beer bottle for Pittsburgh Brewing Co.'s Tech brand beer that weighs only 5½ oz., in comparison with 7 oz. for previous standard non-returnables and a whopping 15 oz. for the heavy returnable beer bottles used in the 1930s.

1930s and with 7 oz. for the lightest previous throwaway. Pittsburgh Brewing Co. reports that savings on glass weight are not all. Additional weight and bulk are saved because of reduced bottle height and consequent reduced size of the 24-bottle case, which when filled is 2.4 lbs. lighter and occupies 22% less cubic space. Best of all, Pittsburgh sells Tech beer in this bottle at the same price as beer in returnable bottles which require deposit and return.

Fifty years ago, the ratio of beer-bottle weight to contents was about three to two. Today, with the latest one-trip bottle, it is one to two. This has been achieved, through design and technology, with no significant increase in breakage—at least so far as one-trip service is concerned. When the first amber one-trip bottles (weighing 7⅜ oz.) were used in World War II to take beer to our troops in the Pacific, they were so light and so resistant to breakage, in contrast to glass bottles previously known, that most G.I.'s believed they were made of plastic; many wrote to MODERN PACKAGING to settle bets on the question.

After 4,000 years, glass is still one of the most remarkable of packaging materials, possessing a combination of properties unmatched by any one other material. It is chemically inert. It is unquestionably impermeable. It has the advantage of transparency. It can be molded in almost any desired shape. It is basically lowest in cost of all container materials.

But glass, in comparison with other packaging materials, has always been at a distinct disadvantage on two counts. Glass is heavy. Glass will break.

Most significant in the renewed effort to overcome these two handicaps and to produce containers that can continue to compete pricewise is announcement of the formation of the Glass Container Industries Research Corp. A group of 17 glass manufacturers has joined together to support an intensive cooperative research program. Appointed to head it up is Dr. Andrew Johnson, a specialist in ceramic technology, formerly with the Universal-Rundle Corp. Already this group has under way several long-range projects in independent laboratories. The objective is to provide smaller glass-container manufacturers, who cannot afford to maintain extensive research facilities of their own, an opportunity to benefit mutually by pooling their research efforts. The new group is not to be confused with the Glass Container Mfrs. Institute, the trade association for the glass-container industry, of which most of these glass companies are also members.

Says a spokesman for the new group: "We in the glass industry have become a little lazy, but the time is here, we believe, when we must delve more deeply into the mysteries of glass that have evaded solution for 4,000 years."

It must be emphasized that lightweighting is practical only when accompanied with strength that gives sufficient resistance to impact, to internal and external pressure forces and to wide temperature differences.

Such "rightweighting" can be accomplished through exact chemical and physical control of the raw material and the finished glass, through scientific shaping of the container to control impact forces and through rigidly regulated furnace temperatures, higher-speed handling of molten glass, more accurate control of time and temperature factors in the forming process, better control of mold cooling, lubrication and design, and improved annealing or tempering, coupled with improved methods of handling hot ware.

The ideal glass container would be one as light in weight as an electric-light bulb and as strong as steel. And the glass-container industry will never give up the hope that someday it may accomplish this ideal.

In the meantime, let's review what has already been accomplished.

About 25 years ago, typical quart milk bottles (multiple trip) weighed 22 to 24 oz.; today their average weight is 15 to 17 oz. Quart food jars weighed 18 to 20 oz.; today they scale 11 to 13 oz. Ketchup bottles in the same time have been reduced in weight from about 13 to 10 oz.; baby-food jars, from 6½ to 3½ oz. It is a fair generalization that the big-volume glass containers of 25 years ago

were half again as heavy as their modern counterparts. In addition to this has been the further general lightening of wide-mouth jars by 20% in the last two years and the more recently announced developments in lightweight, no-deposit beer bottles.

This is only the beginning of what may be expected in the next decade, say leaders in glass-container research.

Glass is a complex and temperamental material likely to act in unpredictable ways. Many of its peculiarities have remained a mystery so long simply because glass is so commonplace, made from the most abundant materials of the earth's surface: silica (sand), soda ash and lime, melted at modern glass-furnace temperatures.

Today scientists are delving into the strange things that happen to this material in cooling that give it the characteristics of both a liquid and a solid. They are trying to find out what holds glass together.

At room temperature, scratch a glass rod ¼-in. thick and it will snap easily under the pressure of thumbs and fingers. Heat the same scratched rod to 1,000 deg. F. and it will lift a circus elephant. At this high temperature, a glass loses most of its brittleness and takes on a flexibility that offsets the weakening effect of the scratch. What makes it brittle then at room temperature? Research has not yet answered this question. Nor has it been determined why extruded glass fibres show tensile strengths in excess of 300,000 lbs. per square inch—stronger than steel—whereas a molded glass container may break if dropped a few feet.

It is known that the surface strength inside a glass container is greater than the outside; that something happens when molten glass comes in contact with the mold. Chemists and physicists are studying the rearrangement of molecular structure that takes place in glass blowing and they are analyzing the materials used in the molds to deduce some of the unknowns that could make glass stronger and more flexible.

Beyond blowing techniques, the factor of greatest importance in reducing weight is the shape of a container. The most perfect shape for blowing equitable glass distribution is a sphere. As the shape deviates from a globe to oblong or square, surface area increases and the glass does not distribute in even thickness throughout the mold, leaving vulnerable contact points.

A sphere 4 in. in diameter has a volume of 33.51 cu. in. and a surface area of 50.265 in. A cube of the same volume has a diameter of 3.224 in. and a surface area of 62.365 sq. in. This difference affects weight, since the amount of material used must be increased to meet the increase in surface area.

And more glass must also be used to assure adequate thickness at stress points if an angular-shaped container is desired.

Knowledge of these principles has been behind

Weight comparisons of modern lightweight bottles with their 1930 counterparts. Simplified design eliminating bulges, recessed panels and angular shoulders gives greater strength using less glass.

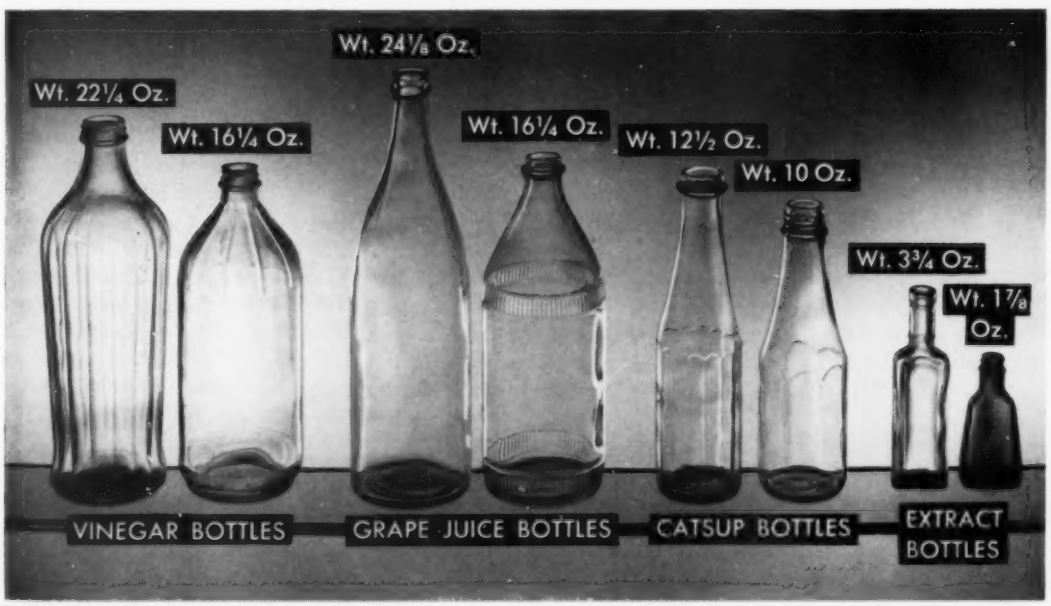
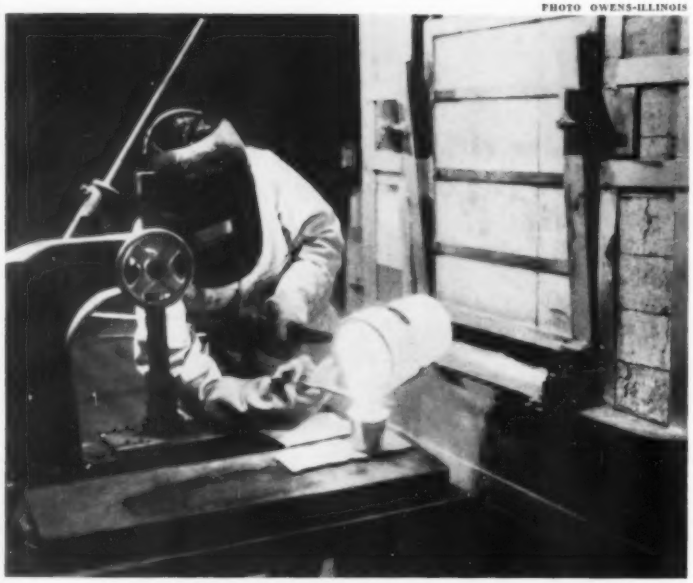


PHOTO HAZEL ATLAS GLASS DIV.

PHOTO OWENS-ILLINOIS



Glass at 2,500 deg. F. is sampled from an experimental furnace. Scientists are trying to find out the reason why glass is flexible at high temperatures but becomes brittle at room temperature. The answer to this may some day solve the riddle of what makes glass break.

the development of all modern, mass-produced glass containers of lighter weights. It has been the reason for the trend to standardized rounded shapes that give greater strength with the use of less glass and permit the economies of increased production speeds possible today because automatic glass-container manufacturing equipment is not being slowed up by excessive use of material..

Users who give careful consideration to glass-container design or who can use standard, lightweight, stock containers are therefore benefiting most from the economies inherent to modern glass manufacture. Container design, it should be remembered, is the starting point for economy in the selection of any glass package.

The glass-container industry estimates that it is presently using only 1% of the measurable laboratory strength of glass. Its immediate goal is to raise the use of this inherent strength of the material from 1 to 10%. Except for cost factors, there are those who believe it might be possible to increase useful strength by five or six times in the next three years and certainly on a practical basis within the next 10 years.

These are just some of the objectives to be achieved in the laboratories. In the meantime, research is offering alternatives in the way of coatings and surface treatments that are making lighter-weight glass more durable. Among these are the invisible silicone coatings that have given glass the ability to resist scratching and consequent weakening in handling, and the vinyl coatings that have enabled bottles to withstand the pressures of aerosol packaging. Very promising are the epoxy resin coatings. These offer the opportunity for variety and color appeal that would give a new look, for example, to cream jars for the cosmetic trade. One prospective user is considering these new epoxy-resin-coated lightweight glass containers not only because of their attractive appearance, but because the coating does not peel off and the bottles have survived drop tests up to 11 ft. in comparison with the 3-ft. drops considered satisfactory for comparable untreated glass containers.

Says Richard L. Cheney, executive director of GCMI, "Every time a competitive packaging material to glass comes along, there are those who would 'kill off' the glass-container industry. But every time this ancient and venerable business comes back stronger than ever."

In 1939 it was thought that the paper milk container spelled the doom of the faithful old milk bottle. But GCMI figures show that as many milk bottles are being used today as in 1939 and their studies in some cities indicate that glass is even returning to the supermarkets.

When the beer can came along, many thought it meant the end for beer bottles. But the glass industry developed economies in quart beer bottles and lightweight, throw-away bottles, with the result, according to GCMI, that today 65% of packaged beer is bottled in glass and five times as many beer bottles are being used today as 20 years ago.

Despite the promotion in recent years of cans for soft drinks, 99% of carbonated beverages, according to GCMI, are still in glass bottles today—principally because of the inertness of the material, requiring no linings. And 10% of the shipments of new glass to this industry are lightweight, no-deposit bottles.

The boom in low-cost plastics represents another competitive threat to glass containers—yet in the packaging of cosmetics and drugs, where plastic bottles have so far had their widest application, glass containers are reportedly still enjoying their greatest rate of growth. Despite new materials, new fads and fancies, the glass-container industry points out that its present enviable annual sales of $1 billion account for approximately the same proportion of today's total packaging market as they did 20 years ago.

Through its stepped-up research program to develop lighter and stronger glass containers, the glass industry is determined to keep up this record, achieved only by the technological advances that give users continually more efficient glass packaging.

Shock-absorbing carton

Double-wall construction
of cost-saving new folding box
'floats' Beaudry chocolate eggs
on a cushion of air
for protection against breakage

Packagers of fragile, low-cost consumer products have this common problem: How can they give such items the solid protection and merchandising appeal required to pay off in high sales volume, yet hold the line on packaging costs?

One such packager, Beaudry Bros. Candy Co. of Los Angeles, has the problem well in hand. For its decorated chocolate-candy Easter eggs, the company has adopted a new type of one-piece folding carton with window that not only "floats" the product for protection against breakage, but sharply reduces packaging costs as well. According to Beaudry, its new carton can be assembled in half the time required for the former package (a folding carton with a separate cushioning insert), with substantial savings in labor. And packaging-material costs are down considerably, the company says.

Construction of the shock-absorbent carton is simple, but ingenious. The one-piece blank is die cut, with scored fold lines. As the carton is set up, two double side walls and a double bottom are formed. The three inner panels are recessed ½ in. from the outer walls. This construction, the company points out, effectively cushions the chocolate egg against damage from rough handling. As additional protection, the two interior side panels have die-cut openings to hold the egg and keep it firmly in position, even when the carton is tipped over.

To insure against collapse of the platform on which the candy egg rests, it is pre-glued to the carton's front panel. Otherwise, the entire setting-up operation is simply a matter of folding the board and locking the outer side-panel halves.

A cellulose acetate window that extends from the top of the carton down part of its front panel provides ample product visibility while at the same time protecting against dust and handling.

The carton blank is printed on one side only with an Easter design in red, white, blue and yellow. A spattered-color "Easter egg" motif on the top of the carton appears also on the folded-over interior walls, which give the carton the effect of being printed on the inside as well as the outside.

The ingenious carton design is considered to have a great potential for other odd-shaped, fragile items in many product lines.

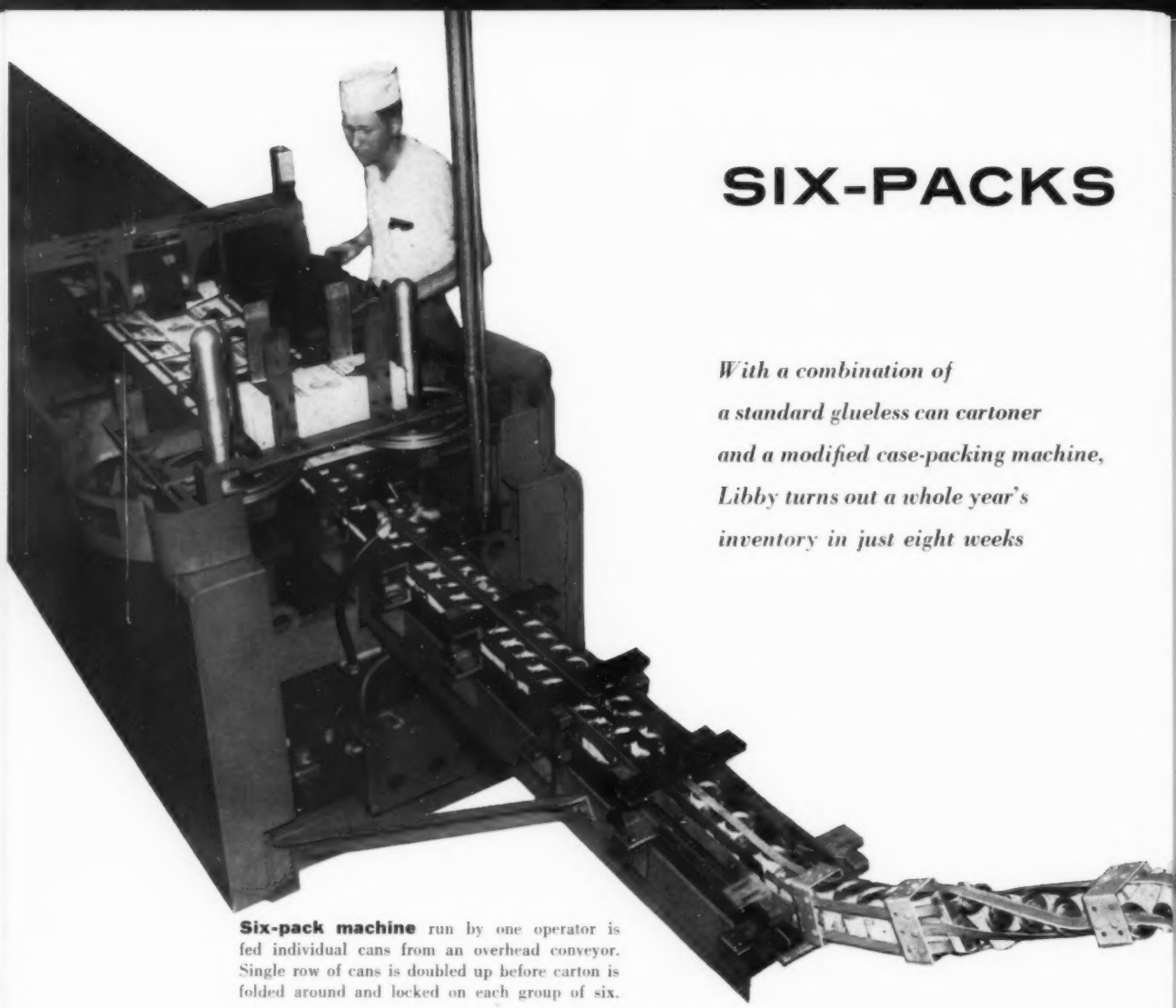
SUPPLIES AND SERVICES: *Carton designed and produced by H. S. Crocker Co., Inc., San Bruno, Calif.*

Locked in place by die-cut openings in interior side panels of Beaudry Bros.' new "cushion carton," chocolate egg can't fall out of position even when package is tipped over. Note wide air space between inner and outer side walls.

Exploded view shows ingenious construction of one-piece carton. Beaudry says cost is less and assembly twice as fast as former package.

SIX-PACKS

With a combination of a standard glueless can cartoner and a modified case-packing machine, Libby turns out a whole year's inventory in just eight weeks



Six-pack machine run by one operator is fed individual cans from an overhead conveyor. Single row of cans is doubled up before carton is folded around and locked on each group of six.

Merchandising advantages of six-pack put to work by Libby, McNeill & Libby for its 5½-oz. tomato-juice can include carton design adaptation of can label for consumer recognition, a premium offer on the carton top and the usual multiple sale of a half-dozen units at a time.

A decision by Libby, McNeill & Libby to use a six-pack carton to help push its canned tomato juice called for high production in a short span of time. Like many other canners of tomato products, Libby must pack 52 weeks' inventory in just eight weeks.

To do the job with a minimum of down time and without an increase in personnel, Libby has stepped up its case output by employing two machines set up in tandem at its Blue Island, Ill., plant.

The first machine is a standard six-pack cartoner that locks the carton bottoms in a glueless system. Following this is a caser of a type often used for cartons of frozen and dry products, but now modified to handle six-pack cartons quickly and easily and so avoid hand packing.

Actually, this is Libby's second use of six-packs for tomato juice in 5½-oz. cans. But before Libby again decided to use six-packs for these cans, it re-assessed its first experience with the package

IN A HURRY

a year ago. The decision to run the pack again this year on the new tandem line was based on Libby's conclusions that six-packs offer several merchandising advantages of interest to manufacturers of many products suitable for such multi-packaging:

Better display. The cartons stack better than do loose cans in aisle and gondola displays, they create a billboard effect and they have greater impact and visibility.

Easier in-store handling. The six-packs are faster to stock, to price and to check out. Libby has succeeded in putting its brand of tomato juice in new outlets and believes that the convenience it offers to store personnel may be one reason.

Sales advantages. The pack moves six cans at a time, probably introduces the brand to such new customers as young couples and allows Libby to feature its Slimdown glass premium offer on the carton's bountiful display area. While some users of six-packs have decorated the broad sides of the cartons with new designs, Libby adapted its can-label design to provide greater consumer recognition for its entire tomato-juice line. The top of the carton carries the premium offer.

In the plant, Libby requires a maximum of line efficiency, since down time during seasonal food packing is much more critical than in year-round packaging of non-perishable or controllable items.

The company selected a glueless cartoner that operates in this plant at approximately 430 cans a minute, or 80 six-packs a minute. Although the cartoner can operate faster (it is rated by its manufacturer at about 138 six-packs per minute), its speed is governed here by the rate of Libby's canning operation, in another room, and by the capacity of overhead conveyors that shunt cans to the six-pack line. A good proportion of the 5½-oz. tomato-juice pack is still shipped without six-packs.

As the completed six-packs come off the cartoner, rail twisters turn the packs on their sides as they drop to the feed conveyor leading to the caser. Two packs move together to an elevator mechanism and are lifted by horizonal elevator bars as a second tier moves underneath. Both layers of six-packs are raised to the level of a loading tube and a pusher plate shoves the packs into the tube. As the process repeats itself, two patterns of six-packs, or eight six-pack cartons, are pushed into the case.

Meanwhile, a single operator opens cases and places them on the end of the loading tube. As each case is filled with eight six-packs, a lowerator arm automatically takes off the filled case and places it on a discharge belt.

Case loading is arranged so that bottoms of the six-packs are exposed when the case is opened. This helps to keep dust and dirt off the top of the six-pack where the special-offer copy is run.

Case output runs nine a minute, although Libby could double this speed if the basic supply of cans to the line could be speeded up accordingly. The caser is rated by its maker at up to 20 cases a minute.

SUPPLIES AND SERVICES: *"Cluster-Pak" cartons and cartoning machine by Atlanta Paper Co., Atlanta. "Sure-Way" caser by Food Machinery & Chemical Corp., Canning Machinery Div., San Jose, Calif., and Hoopeston, Ill.*

Compact caser is automatic except for hand forming of case and hand positioning on end of the loading tube. Previously, the entire case-loading operation was performed by hand. Case shown being filled with eight six-packs will be placed on the take-off conveyor by a lowerator arm.

METALIZED PAPER IS HERE

The paper that passes for foil,

thinly coated with aluminum by new vacuum-deposition method,

gets first commercial test on Bresler's ice-cream bars

With vacuum deposition of an aluminum coating only 4 one-millionths of an inch thick, it is now possible to transform paper into a wrapping material virtually indistinguishable from foil—using only a fraction of the metal. The 4 one-millionths thickness of the coating compares with 25 one-hundred-thousandths for the thinnest commercially practical laminating foil. The latter thus represents more than 62 times as much metal.

The first commercial application of such metalized paper, the result of a recent scientific breakthrough in high-vacuum techniques, is in printed, embossed bags supplied to Bresler Ice Cream Co., Chicago, for chocolate-covered ice-cream bars. The effect may be studied in a section of the material inserted as an illustration herewith.

While this first application utilizes a special glassine paper as the base stock, metalizing of other types of papers is expected to offer still greater cost and converting advantages in packaging applications that do not require barrier properties. The material, which is metalized on one side only, re-

Foil-like, this metalized glassine bag retains the snap and handling ease of paper. Used by the Bresler Ice Cream Co. for a premium-priced chocolate-covered bar, the gusseted bag is reported to cost the same as foil laminations, but it chalks up savings from superior machinability.

Opposite page illustrates material as actually used to make bags for Bresler ice-cream bars, showing appearance and printing qualities of aluminum vacuum deposited on glassine to a thickness of only 4 millionths of an inch. While it looks solid, it uses only 1/62nd as much aluminum as that used in the very thinnest aluminum foil.

INSERT COURTESY BAGCRAFT CORP. OF AMERICA

ICE CREAM BAR

ICE CREAM BAR

tains the easy printability and handling characteristics of paper, and the metal adds virtually no additional weight to the basis weight of the paper.

The metal coating, applied to appropriate types of paper, is visualized for such decorative packaging materials as overwraps, liners and labels for cigarettes, canister and bottle packs, gift items, soaps and cookies. The material takes the same printing inks and processes as foil.

Additional development of metalized boards and metalized papers that have been pre-coated with vapor-barrier materials—projects that are now under way—will further broaden the packaging potential of this decorative surfacing to applications where resistance to water-vapor penetration is a vital factor in product protection.

In the present use for ice-cream bars, the metalized glassine, formulated with special plasticizers and converted into bags, shows at least 70% less waste during bagging, handles more easily on automatic bagging machines and offers less adherence to the product than previous laminated foil bags, according to Bresler and the converter.

The metalized glassine is used by the company for the same purpose as its previous foil bags—to distinguish a premium ice-cream bar from a less expensive variety and thus boost the appearance and sales of the creamier of two items in the same line.

In the packaging machine used at Bresler, the bags are held by clips and a puff of air opens the bag just before the ice-cream bar is inserted by an automatic device.

As with super-calendered bleached sulfite paper, used for the less expensive bars, metalized paper has the snap needed to open cleanly under the air blast and is stiff enough so it won't crimp when the ice-cream bar is slipped into the package, according to Bresler. And the metalized glassine's slick inside surface reportedly makes it easier to insert and remove the bar. At Bresler, packaging waste is estimated at less than 2% on the metalized bags, against 7% for the previous laminated-foil bags.

The new Bresler bag is a red, blue and white design, printed with standard foil inks on a flexographic press. A resin glue is used for forming the center and bottom seals. The bag gusset is offset, as with many other paper and foil ice-cream bags, to insure positive opening on the bagging machine. Thus, the clips grip only the bottom fold of the gusset on the packaging machine, enabling the air blast to work against unsupported paper.

Vacuum metalizing of various materials is not basically new. Batch techniques for coating plastic objects have been in commercial use for some time. However, this paper-coating technique uses a new continuous process in which roll-stock paper is fed through a high-vacuum chamber. Here, at an operating pressure of only 5 to 10 microns of mercury, pure aluminum is vaporized and condenses in a permanent bond on the cool paper surface. The finished sheet appears to have a continuous surface, but an electron microscope discloses an extremely thin layer of aluminum molecules more porous than the thinnest foil. However, metalized paper does not have the pinholes that are found in very thin foil.

Nevertheless, according to the coating firm, in the case of the material used by Bresler the metalized coating lowers water-vapor transmission by about one-third, the figures being 2.8 gm. per 24 hrs. per 100 sq. in. as against 4.2 gm. for the unmetalized glassine base stock.

The converter reports that printing characteristics of the metalized paper are different from those of standard glassine or wax-mounted foil. The material is said to be receptive to specially formulated flexographic inks and is also said to handle easily in letterpress, gravure or lithographic equipment. The manufacturer states that any ink that is compatible with the base stock will work equally well after the material is metalized.

There is no more problem with curl in metalized material than in the uncoated paper stock, according to production reports. But because the coating is so thin, there is a problem of scuffing that must be overcome with a conventional lacquer overcoat.

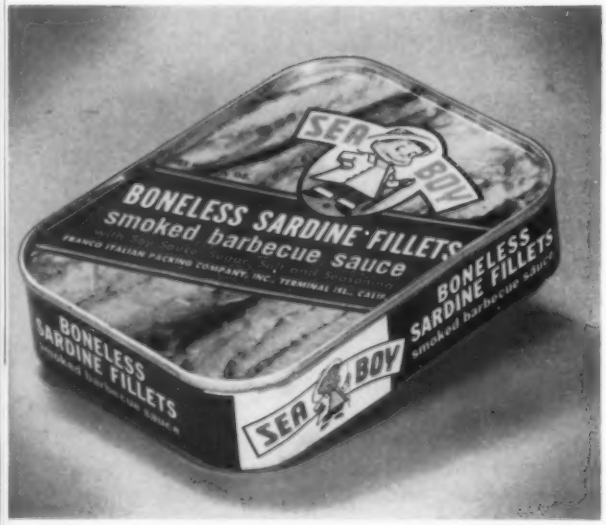
Now under development are such other papers as a matte-finished metalized sulphite sheet for embossing and a high-gloss sulphite that has a somewhat heavier coating of aluminum and presents a brilliant reflective surface.

At this early stage, the bag-maker's prices for Bresler's metalized glassine bags show no substantial saving over the previous laminated-foil bags. The vacuum-coating equipment is costly; the operation is still virtually in a pilot stage, and full production economies have not yet been realized. But since the coating process uses so little metal and further eliminates the cost of laminating adhesives and of the laminating operation itself, eventual economies appear to be obvious—particularly where low-cost paper stock can be used as the base material.

According to one authority familiar with the process, continuous coating of paper by the vacuum process can produce satisfactory results at considerably less than the cost of laminating foil, the saving depending upon the base stock selected.

SUPPLIES AND SERVICES: *"Foil-Cote" bags converted by Bagcraft Corp. of America, 3900 W. 43 St., Chicago, using glassine metalized by Vaculite Corp., 70 Memorial Dr., Cambridge, Mass. Bags distributed by Joe Lowe Corp., 601 W. 26 St., New York.*

Now it's sardines in aluminum cans

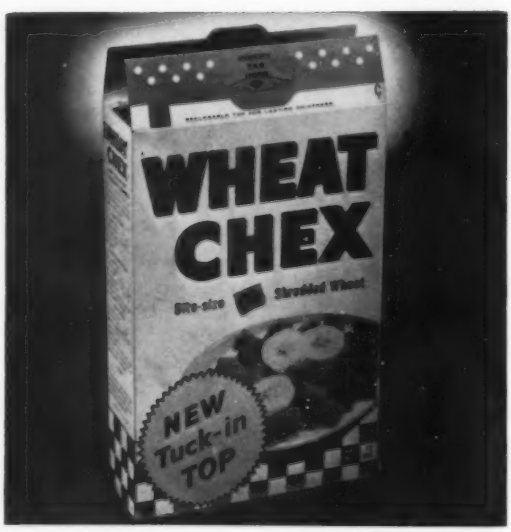


Aluminum cans appear to be steadily strengthening their toe-hold in the food-processing field. Now Franco-Italian Packing Co., Terminal Island, Calif., has adopted a flat all-aluminum can for Sea Boy sardine fillets with barbecue sauce. The metal's appearance plus four-color lithography applied during can manufacture in the same way lithography is applied to tinplate are calculated to upgrade shelf appeal. A bonus merchandising factor foreseen by the packager is that aluminum's ductility makes the can easier to open. And the lighter-weight containers will slash shipping costs.

The can body is drawn from a 0.012-gauge blank. The top is made separately. Lithographed can-top design features a realistic, full-size product illustration. A printed wrap-around paper label repeats the copy and trademark design on the can top. A cellophane overwrap completes the package. *Can by American Can Co., 100 Park Ave., New York 17, using Kaiser aluminum. Printed paper label by A. Carlisle & Co., 645 Harrison St., San Francisco 7. Cellophane for overwrapping by Olin Mathieson Chemical Corp., Film Div., 655 Madison Ave., New York 21.*

DESIGN

Ralston announces a reclosable cereal carton



Latest answer to consumer requests for a handy, reclosable package for in-home storage of crisp breakfast cereals is the new dual-flap carton being used by Ralston Purina Co. for its Wheat Chex and Rice Chex.

The carton has a die-cut tab on its upper top flap that fits snugly into a locking slot on the lower flap for fast, secure package reclosure after first use. According to the company, the package can be stored on its side in the cupboard without danger of product spillage.

As a precaution against accidental opening during shipping or other handling, the carton's two top flaps are spot glued to each other during the packaging operation. Ralston points out also that spot gluing assures that the closure flaps will not be torn or otherwise damaged when the consumer first opens the carton.

Product protection is provided by a roll-down interior waxed-paper liner that reportedly cannot be damaged when the carton is opened. The company says its new carton can be handled on existing packaging machinery, without modification. *Carton by Michigan Carton Co., Battle Creek, Mich.*

Heinz adopts aluminum screw caps for baby-food jars

A development that could have the broadest influence on the packaging of hot-processed foods in glass since the introduction of the pry-off vacuum cap is a new easy-opening and reclosable aluminum screw cap now appearing on glass jars for four best-selling H. J. Heinz Co. baby-food products. To help insure the product protection afforded by tight reseal, the closure is fitted with a ring-type liner made of a special resin compound, the packager points out.

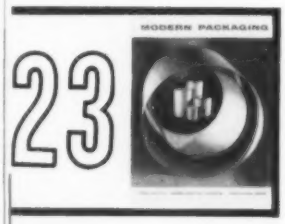
The lightweight screw cap—first major change in the company's glass jars for baby foods since their introduction in 1931—has been adopted for Strained Bananas, Strained Custard Pudding, Strained Fruit Dessert and Strained Apricots and Oatmeal. According to Heinz, its switch to screw closures was made on the basis of consumer research indicating that mothers wanted a package with greater product protection after first use. The wrap-around paper label on each of the jars calls attention to the new convenience feature through spotlighted copy. Opening directions are printed on the cap. *"Flavor-Lok" closure by Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh 19.*

HISTORIES

Modular packaging for a trio of related products

Suggesting an effective way in which a related-use family of products can be merchandised individually or as a group, Chicopee Mills has gone to a modular-packaging design technique for its three Chix Diaper-Separates, on the market after Jan. 1. The company's new carton design also is calculated to provide stepped-up gift appeal—a considerable sales factor in the baby-care accessories market.

Each of the cartons is the same height and depth, although of different length. When the gauze-diaper and baby-panty cartons are stacked for point-of-purchase display atop the carton for diaper pads, they form a neat rectangular unit. Integrated package design also contributes to the individual or multi-unit sales appeal. Each carton is decorated with printed pink stripes and a bow motif on a white background. Copy for each is in the same type style and the bow design incorporates a panel printed to resemble a tag with a slogan that gives continuity to the complete line. When stacked for display, the stripe-and-bow designs on the three cartons line up to give the effect of a single, giant gift package. *Cartons by Robertson Paper Box Co., Montville, Conn.*



SURVEY OF A SUPPLYING INDUSTRY

FIBRE

PHOTO DOW CHEMICAL

Fibre drums—product of a young, small, but resourceful supplier industry—have become workhorses in more and more bulk-packaging fields, due to their steadily growing utility and economy. Chemicals represent the largest single field of use. Solidly established for dry products, fibre drums are branching into liquids and semi-liquids that may push yearly output well over the present total of 26,200,000 units.

PHOTO CONTINENTAL CAN

Rapid winding of bodies from adhesive-coated paper is accomplished on large convolute mandrels that form as many as three drums at a time. Plastic-film inner liners and asphalt impregnations for moisture-barrier drums are added at this stage of operation.

DRUMS

Supplier industry that got a big boost from wartime metal shortages has held its ground and now moves ahead through improvements that broaden the utility of its product

Building solid peacetime progress on top of gains achieved in meeting emergency demands in two wars, the fibre-drum industry has produced an unending series of ingenious improvements on the basic container that have broadened fibre-drum applications from primarily dry, powdered items to semi-liquid and now liquid products.

By concerted action, manufacturers of these containers have so convinced regulatory agencies and package users alike of the fibre drum's protective ability that they now have approval for dry shipping weights running to 550 lbs. And topping this achievement, such non-regulated items as metal products are increasingly packaged in these fibre containers at weights of 800 lbs. or more.

Various drum manufacturers have contributed to acceptance of their product with such developments as the lever-locking metal band and lid, now standard throughout the industry, which provides a rugged and hermetic closure; the use of polyethylene film, aluminum foil and other materials for integral laminations or as loose bag liners to provide complete protection for both dry and liquid products, and special locking and opening devices to prevent pilferage

The industry has made great progress in decoration, too, and fibre drums are now available that rival consumer packages in bright color and ingenious design. Spray painting, stenciling, silk screening and labeling are all mechanized and have become standard methods for achieving these effects, enabling the industry to compete with other bulk containers in the trend to greater merchandising impact for shippers.

In fact, so effective has been the industry's improvement of its product that what is essentially a one-trip container is increasingly used for two or more trips—a unique practice for a paper package—and a separate and considerable industry has sprung up for the reconditioning of fibre drums. A recent freight ruling has further encouraged this trend by providing for step-down use—first-trip liquid containers can be re-used for either semi-liquids or dry products, semi-liquid containers can be re-used for dries. In several cases, drums employed for raw materials are being re-used for the end products.

Throughout these developments, drum manufacturers have been able to maintain competitively low costs for their containers and high strength-to-weight ratios. The fibre drum weighs from 20 to 30 lbs. less than a steel drum and has the rigidity—important in many packaging considerations—that is lacking in the even lower-cost multiwall bags.

The industry

From the first, now unknown, company that produced a small all-fibre cheese drum in 1904, the industry has grown to 13 manufacturers, some with more than one plant and several with plants that are intermittent in operation. Their 26 plants are concentrated in the industrial East and Midwest, with a few scattered through the South and on the West Coast, because short shipping ranges are preferable for these bulky, empty containers.

Ten of the principal manufacturers belong to the Fibre Drum Mfrs. Assn., which grew out of an industry-Government advisory committee formed in 1943 and incorporated as a full-fledged association three years later. The association disseminates industry statistics and promotes specifications for fibre containers in cooperation with carrier and Government agencies that supervise shipping regulations. It also distributes information on the proper usage of

PHOTO BAKELITE

Bag liners for fibre drums have special utility. Here, polyethylene liner equipped with valve is inflated for filling with a plastic resin. Closed system prevents airborne contamination.

PHOTO NATIONAL STEEL CONTAINER

Polyethylene linings are the chief encouragement to liquid packaging in fibre drums. This drum, shown here being filled with a liquid pigment, has a film insert plus a cover disk of polyethylene. The metal locking cover is fitted with plug-type closures for dispensing of the product.

fibre containers and promotes new applications among packagers.

Trade estimates indicate that the industry's output has soared from only 3,500,000 drums in 1940 to 26,200,000 units in 1957, their third best year, surpassed only slightly by 1956 and 1953, with 26,700,000 and 26,300,000, respectively.

The effect of metal shortages during and after World War II and during the Korean war can readily be traced in production figures. In 1945 production had jumped to more than 15,000,000 drums. Output was 19,500,000 by 1949 and averaged 25,000,000 for the years 1950 through 1952. But it is significant to note that, once having proved its capabilities, the fibre drum did not slip back, as evidenced by the fact that the industry's three biggest years were the recent peacetime years of '53, '56 and '57

The chemical industry is the largest single user of fibre drums, taking an estimated 30% of the output. Food products and plastic resins utilize about 20% each; soaps and detergents, roughly 10%; pharmaceuticals and dyes, 12% combined, and wire and other metal products, 4%. The balance is spread across practically the entire packaging field, carrying products ranging from adhesives to X-ray tubes.

The fibre-drum industry's position in these fields is due mainly to one important fact—the fibre drum is economically constructed with enough strength to resist puncture and so provide a light, low-cost container that prevents contamination of sensitive food and chemical products.

The industry produces fibre drums in a full range of sizes from ¾ to 75 gal., but the size most widely used is the 41-gal. container, which usually holds from 200 to 300 lbs. of dry contents. In second place are the 55- and 51-gal. drums, the sizes most commonly used for rail and motor freight weights up to 550 lbs. for dry products.

While the general practice of the industry is to classify fibre-drum capacity in terms of gallons, most products are measured in pounds. To correlate these measurements, fibre drums range in volume from 173 cu. in. to 10 cu. ft. In inside measurements, the containers range in diameter from 8 to 23 in. and in depth from 3 to more than 42 inches.

Drum manufacture

Manufacturing operations vary widely in the industry, but the most modern operations are almost completely automatic and run at speeds of 100 to 700 drums per line per hour.

Convolute winding of the fibre drum body is the universal practice, because pound for pound strength is said to be superior to that produced by spiral winding. And strength of the container can be

boosted even further to meet specific product needs by increasing the caliper of the basic linerboard stock from the standard 14-pt., 47-lb. unbleached kraft or by increasing the number of windings.

Silicate of soda is the adhesive most widely used to fasten the successive layers of paper together, because it sets up fast and adds rigidity to the structure. But resin glues are required for military packages because of their water-resistant qualities and asphalt barriers are also used in other commercial applications where protection is imperative.

To cut manufacturing costs, some producers wind a long tube and then cut it to length, making several drum bodies at once.

The bottom disk of the drum is usually built up from an outer layer of melamine-treated kraft that has wet strength; an inexpensive filler layer made of jute, chip or asphalt-impregnated material, and an inner lining of plain kraft. This disk and the bottom chime are slipped into place and simultaneously fastened in a die-forming operation that produces a siftproof container.

While fibre or wooden tops are made for some drums, by far the most popular closure is the metal top, secured in place by a lever-actuated locking band, which was developed by a leading fibre-drum manufacturer and is now available to all makers. A baked-on resin varnish guards against corrosion of the top and the clamped closure prevents leakage of both liquid and dry products.

The locking bands and chimes are formed from rust-resistant, electro-galvanized steel. Chimes vary in size; the biggest and strongest are used on drums intended for liquid applications, because of the need for greater protection. Drum bodies also increase in weight with size, ranging from a Mullen burst strength of 400 lbs. per square inch for 60-lb. drums to 1,200 lbs. per square inch for liquid drums.

Developments

Of top interest is the industry's development and increased use of internal linings, principally polyethylene, for improved protection. Since the 1920s there have been lined drums, starting with laminations of cellophane and working up through Pliofilm to foil. Special waxes and resins have also been used as coating materials. But the versatility and protective advantages of polyethylene now enable manufacturers to provide three new types of lined fibre drums that for the first time seriously challenge competing containers for the bulk-liquid packaging market and that improve their competitive position on dry materials. The purpose of all of these lining techniques is either to prevent contamination of the product by the kraft lining (as in the case of many sensitive drugs and foods) or to prevent the product from weakening, penetrating or otherwise affecting the paper lining (as with liquids).

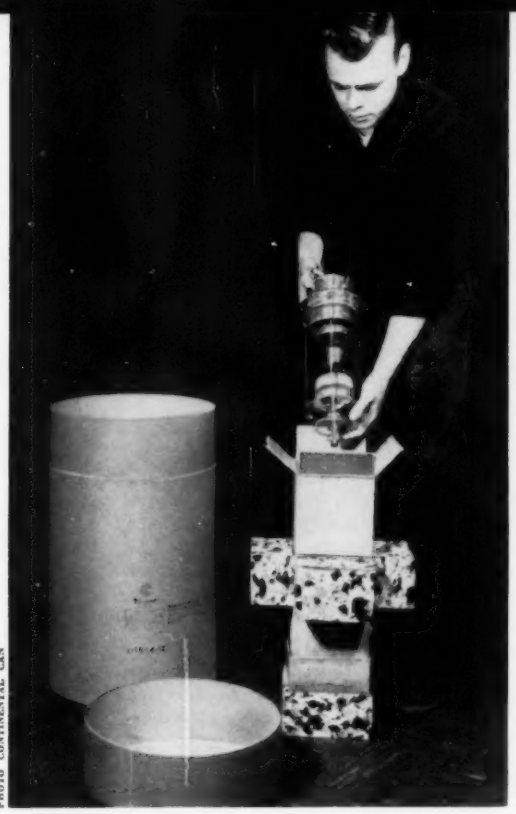


PHOTO CONTINENTAL CAN

Fragile products are shipped in fibre drums. Here, a delicate electronic tube, cushioned in a corrugated case and plastic foam, is safeguarded by a "35-gal." all-fibre container which is capable of handling weights up to 200 lbs.

The first and simplest type of lining is a polyethylene bag which the user can store independently and employ in a variety of preprinted drums for different products. Heavier and more expensive bag liners, with some products, can be washed and reused many times and have found considerable use in the frozen concentrated-juice industry. While many of these liners are made from polyethylene tubing with a straight heat seal that forms an envelope, a favored type is the "contour" liner made by sealing a disk of film in the base of the tubing. The latter design prevents flexing of the liner under the weight of the product and reduces chance of rupture from fatigue.

Even newer is the drum-manufacturers' technique of laminating polyethylene directly on the inside liner sheet. Combined with a laminated bottom and a coated lid, this container provides an effectively liquid-tight container that can handle any water-based product and a wide variety of corrosive solids. It cannot be used, however, for hydrocarbon-based liquids because of the degrading effect of these chemicals on polyethylene and because the polyethylene provides no barrier to many fumes released by these hydrocarbons. [*Continued on page 170*]

A new shrinkable polyester

Printed and coated film, applied by an automatic wrapping machine, gives Townsend's a poultry package with such strength and long life as to suggest a new outlook on shipper pre-packaging

Tight fit and crystal clarity of new shrinkable polyester film wrap are apparent in lower package, shown with unwrapped tray above. A special absorbent pad on a non-absorbent backing board soaks up natural juices, but does not wick moisture from the chicken. In shrinkage, printing on film reduces uniformly to about half its original size.

A new, heat-shrinkable, printed film and a new automatic packaging machine are teamed for wrapping of cut-up and trayed poultry at Townsend's, Inc., poultry shippers of Millsboro, Del. So effective and so simple is this pioneering use of a new type of coated polyester film that, in combination with a special waxed and foil-laminated shipper, the technique may eventually obviate the need for back-room packaging of poultry and other perishable items at the corner store and supermarket.

The start is small. Only a small percentage of Townsend's 50,000-per-day output of dressed chickens is going through the automatic wrapper at present. For, while supermarketers have long said they would prefer to do no pre-packaging, most are in it now and insist that they must have some slack-hour work for their employees. Despite this barrier, Townsend's has made progress in only a few weeks, and the new material and equipment used may point the way to wide application of this technique to other meat, vegetable and fruit pre-packaging operations, moving this type of packaging back to the shipping point.

Key to this machine-packaging technique is a new, crystal-clear, shrink-type polyester film which is making its commercial debut in this application and which is said to have a good packaging potential because of properties that are combined in almost no other film. Possessing excellent dimensional stability and strength, the oriented material of 0.4-mil gauge, can withstand the rigors of refrigerated storage and shipment and of supermarket handling without cracking or wrinkling and without relaxing of its tight, smooth appearance, according to Townsend's. In the process this tough, heat-shrinkable film can be reduced to about 50% of its original area by a hot-air blast at 190 deg. F. Under proper refrigeration, the snug wrapper preserves the chicken for more than a week.

A thermoplastic coating on both sides of the film enables the plastic to be heat sealed without shrinking away from the sealing platens. For such a thin film, the material is also remarkably "stiff" and poses no feeding or handling problems on automatic packaging machinery, in Townsend's experience.

Tensile strength of the film, according to its manufacturer, is approximately equal to that of 300-gauge cellophane. The Elmendorf tear strength is rated at 33 gm. per mil. Water-vapor and oxygen transmission rates are higher than those of such high-barrier films as saran and polymer-coated cellophane, though grease resistance is good and the film is easy to print.

The new material compares very favorably in cost with non-polyester shrinkable or stretchable films, according to Townsend's, and is said to be less expensive than other polyester materials. The 40-gauge film is priced, according to its manufacturer, at $2.40 per pound and has a yield of 55,000 sq. in. per pound, which works out to 4.3 cents per 1,000 sq. in. At present, printing cost runs high, but that is expected to come down in volume converting operations.

Wrapping of the cut-up chickens—which are pre-packed by hand into lock-tab folding trays containing an absorbent pad—is accomplished on

48 packages per minute can be turned out on this straight-line poultry packaging set-up. Key machine in the operation is new wrapper (foreground) which rotates overwrapped trays 180 deg. and across roller-type heaters (arrow) to bottom seal the film. Feed rolls on this modified machine maintain constant tension on the thin film for accurate cut-off and registration. Note blower-equipped hot-air shrink tunnel located next to the scale.

a turret-type wrapper specially modified for handling this film as well as polyethylene, saran and other thin plastic films at speeds up to 40 packages per minute.

Special features of this unit include (1) a redesigned feed section with springs that hold idler rolls and film web under constant tension and (2) Teflon-coated tuckers and folders in the package elevator to eliminate sticking. Pressure plates that hold the packages on the turret and prevent the film from loosening are cam actuated and spring mounted to compensate for the variations in package height encountered in handling poultry, meat and vegetables.

Of particular interest is the sealer design. To prevent scuffing of light films, the sealer comprises 10 rollers that reduce friction to a minimum. These sealers are radiant heated from below by a series of cartridge elements. Close temperature control is obtained by a probe in the heating elements that connects to a sensitive controller.

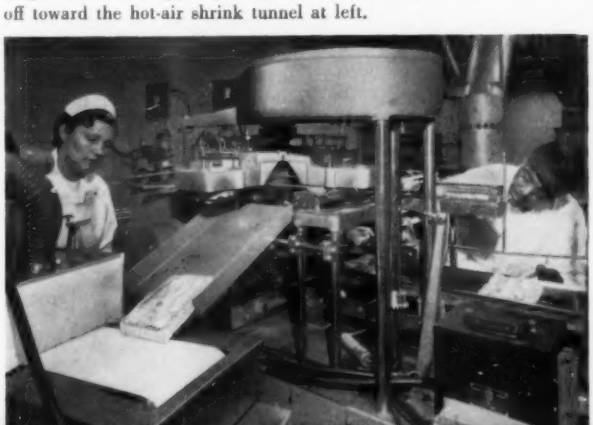
The wrapper discharges packages into a small hot-air tunnel that shrinks the film covering to a skin-tight fit.

At present, most of the machine-packed chickens are marketed under the Townsend's brand mark—a bright red, yellow and blue design applied to the film by a gravure process.

The shipping case, which holds 12 pre-packaged chickens, is a special telescoping container with a heavily waxed bottom and a foil-laminated top. It is specifically engineered to withstand ice—blown into the loaded trucks—and to reflect heat and so preserve a low internal temperature in shipments directed to most of the Northeastern states.

SUPPLIES AND SERVICES: *"Videne TC" shrinkable polyester film made by Goodyear Tire & Rubber Co., Inc., 1144 E. Market St., Akron, Ohio, and converted by Flexible Packaging Div., Continental Can Co., Mt. Vernon, Ohio. Wrapping machine by Crompton & Knowles Packaging Corp., Holyoke, Mass. Hot-air shrink tunnel by Great Lakes Stamp & Mfg. Co., Inc., 2500 W. Irving Park Rd., Chicago. Folding trays by Sutherland Paper Co., 243 E. Paterson St., Kalamazoo, Mich. Absorbent pads by Kimberly-Clark Corp., Neenah, Wis. Shipping cases by Stone Container Corp., 4200 W. 42 Pl., Chicago.*

Cam-operated turret action is shown in this close-up. The cam lifters and independent springing on each package holder prevent film from slipping and adjust to packages of varying height. Here, a wrapped package is shown sliding off toward the hot-air shrink tunnel at left.



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Packaging Pageant

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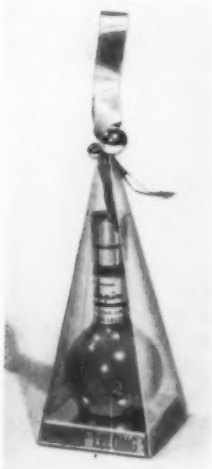

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1 Easier handling by hospital staffs is the aim of redesigned bottles with stepped-up brand identity for Mead Johnson parenteral solutions. The slimmer containers have blown-in finger-grip indentations and cubic-centimeter calibrations. They are equipped with wire bales for pouring. A tear-off aluminum seal protects the rubber closure on each bottle. Glass bottles, Armstrong Cork Co., Lancaster, Pa. Design, Don Dailey & Associates, Evansville, Ind. Closures, West Rubber Co., Phoenixville, Pa. Seals, Aluminum Co. of America, Pittsburgh. Paper labels, Keller-Crescent Co., Evansville, Ind. Bales, Sta-Rite Ginnie-Lou, Inc., New York. Bale bands, George W. Mayer Co., Indianapolis.

2 Unusual pyramidal shape of a transparent acetate box with gold-colored foil-paperboard base adds a novel note to Christmas gift packaging of Lucien Lelong's "Tailspin" cologne in an aerosol bottle. Package, American Cellubox Corp., New York, using Celanese acetate.

3 Illustrating the trend toward taking the awkwardness out of handling heavy containers, Texize Chemicals has adopted easy-to-hold, amber-glass bottles for its household bleach. One is a tall, slender, quart-size container; the other, a ½-gal. jug with an easy-to-grip, two-finger handle. Bottles, Continental Can Co., Hazel-Atlas Glass Div., Wheeling, W. Va. Metal screw caps, Armstrong Cork Co., Lancaster, Pa. Paper labels, Forbes Lithograph Mfg. Co., Boston.

4 The vast opportunities that exist for decorative packaging in unusual fields are indicated by National Bible Society's gift packaging of the Holy Bible by the millions in extension-edge set-up boxes with interior transparent-acetate slip covers. Box, Cardinal Boxes, Inc., Philadelphia, using Monsanto acetate.

5 A novel way to offer shoppers extra value without using the customary price-reduction technique is suggested by the Nestlé Co.'s "bonus jar" for Nescafé instant coffee. The special-mold jar has an elongated neck containing enough coffee to make 10 extra cups. A foil neck label promotes the

"free" offer. The main label also is foil. Jar and screw cap, Anchor Hocking Glass Corp., Lancaster, O. Design, Egmont Arens, New York. Labels, William W. Fitzhugh, Inc., New York.

6 Another packager adopts the repetitive-copy background motif to achieve standout display appeal. On the ½-gal. freezer cartons for Arden Farms' ice cream, the words "Flavor Fresh" appear in a repetitive pattern on all panels. Cartons, Marathon, Div. American Can Co., Menasha, Wis.

7 Graduated measurement markings blown into the glass jar for Durkee's mayonnaise give it re-use value as an in-home refrigerator or canning container. Copy on the paper label points up this feature. Jar, Owens-Illinois Glass Co., Toledo. Lithographed metal screw cap, Crown Cork & Seal Co., Crown & Closure Div., Baltimore. Printed labels, Lehmann Printing & Lithographing Co. and Security Lithograph Co., both San Francisco.

8 Greater convenience in dispensing liquids from polyethylene-cube-in-carton containers is suggested by Du Pont's new "Probe-Pak" for battery acid. A rubber dispensing hose with a pointed tip is inserted directly through the walls of the outer box and plastic liner. The company reports that the "memory" characteristic of polyethylene helps prevent leakage of the liquid about the probe. "Cubitainer" with dispenser, Hedwin Corp., Baltimore.

9 To promote Christmas sales and to eliminate clerks' time in gift wrapping, Aberle, Inc., packages a holiday wrap and stretchable polyvinyl chloride ribbon loop in the box with its hosiery for purchasers to do their own wrapping. A red bow is attached to the ribbon. "Rapid Ribbon" loop and gift wrap, Chicago Printed String Corp., Chicago.

10 Window cartons for Fairview Frosted Foods' "Toyburger" beef patties for children show off the toy- or animal-shaped products inside. The freezer cartons are overwrapped with cellophane. Cartons, Marathon, Div. American Can Co., Menasha, Wis. Cellophane, American Viscose Corp., Film Div., Philadelphia.

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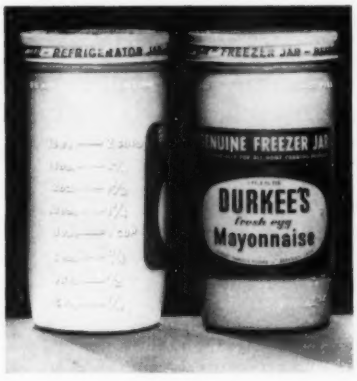

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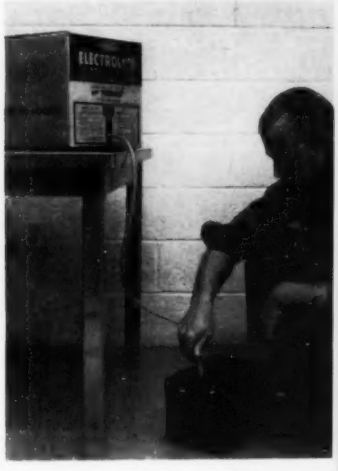

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A 1,900% sales gain and a huge backlog of orders came quickly when Stanley-Oliver picked two slow movers for a test of the sales effectiveness of plastic-blister cards

BINGO WITH BLISTERS

If bold repackaging of two slow sellers can change inventories into back orders, why not apply the same strategy to the whole line?

That was the question the Stanley-Oliver Mfg. Co. of Chicago put to itself this year after deciding, in the face of strong competition, to repackage in a hurry two of its 20 products. The new package in both cases is an acetate-blister hang-up card. The answer to the big question was never in doubt after sales surged 20-fold on one item and backlogged into hundreds of thousands of units on the other, putting the factory as much as six months behind in filling orders at one point. This is a situation most packagers would like to face.

One of the largest manufacturers in its field, Stanley-Oliver markets such products as bath sprays, bathroom deodorizers, faucet strainers and faucet aerators. More than a year ago General Manager Robert Oppenheimer sized up the rapidly expanding supermarket rack sales of housewares generally and decided that the packages for at least two of its products had to be overhauled quickly. The decision was based on sales figures which indicated that these packages were suffering at the hands of competition simply because they were not geared to self selection.

Typical of new packages planned for 18 other products in company's line is this self-selection folder for shower spray. Polyethylene bag is used for added protection in some markets.

A package-design firm was called in to repackage the two sluggish items—a bathroom deodorizer and a faucet strainer. The goal was fast turnover on self-selection racks and serviceability in such older outlets as department and hardware stores.

First problem to be tackled was the bathroom deodorizer, formerly packaged in a folding carton. Although a die-cut window permitted partial product visibility, the carton was bulky (because of a refill packaged with the deodorizer) and was cluttered with a variety of art and copy elements that took the play away from the product. Completely changed, the new package is a colorful, heat-sealed paperboard folder with a die-cut opening in one panel through which protrudes a 2-mil acetate blister holding the deodorizer. The card is printed in black and pastel pink, yellow and turquoise. It can be hung on a pegboard or stacked in a bin.

To capitalize further on the impulse appeal afforded by its new visibility package, the company added a complementary color to the product itself. The polystyrene barrels of the deodorant holders are in pastel pink, aqua and yellow.

The company's simpler, more colorful new package design also has been carried over to refill and display cartons for these products.

How successful is the new self-selection deodorizer package? For proof, executives point to a phenomenal 1,900% sales increase, beginning almost on the day of its introduction.

The company faced an even tougher sales problem with its faucet strainer. This item was virtually identical in appearance, operation and price with the market-dominating product of a competitor. And both were packaged on simple, die-cut hang tags.

The new, more costly package is a double, 2-mil acetate blister whose edges (like those of the deodorizer blister) are secured inside a heat-sealed folder with duplicate die-cut openings in each panel. Design is identical on both sides of the

Radical packaging changes for these two Stanley-Oliver products converted sluggish inventories into back orders. New hang-up cards for self-selection outlets show off bathroom deodorizer and faucet strainer in acetate blisters. Old carton for deodorizer was bulky, cluttered with copy and lacked full visibility. Former hang tag for faucet strainer was same as that used by a market-dominating competitor.

folder, which "splits" the faucet strainer right down the middle for an unusual three-dimensional effect. The contoured twin acetate blisters join at the center line for all-over protection of the product.

According to Stanley-Oliver, success of this new package has been even greater than that of the deodorizer pack. High retail turnover so increased production that the added packaging costs were quickly recovered.

In this experience is a lesson for all packagers. "Packaging economy" solely for economy's sake is a misguided notion; true economy results from the use of the most effective materials at hand, regardless of initial cost comparisons.

With two big success stories in the book, Stanley-Oliver decided its entire line of packages should be redesigned for self-selection impulse buying. Now in process is an across-the-board repackaging program that will be completed early in 1959.

Typical of the changes being made are the new packages for a line of shower sprays. The company has taken them out of folding cartons and put them on hang-up folders—again with the accent on maximum visibility. For some markets, the folders are packaged in transparent polyethylene bags. The polyethylene bags are tinted to match the color (pink, blue, green or yellow) of the spray. However, the tinting is very faint—about half the normal ratio —so the film's transparency is not affected. Folder design features the product name, an in-use illustration and a large price spot.

SUPPLIES AND SERVICES: *Package design by Walter Frank Organization, Hillside, Ill. Printed and die-cut folders by G. A. Ackermann Printing Co., 1320 S. 54 Ave., Cicero 50, Ill. Blisters by Makatoy Co., 1755 W. North Ave., Chicago, using acetate by Midwest Plastic Products Co., 1801 Chicago Rd., Chicago Hgts., Ill. Bags by Tower Packaging Co., Skokie, Ill.*

Polyethylene standard

Very soon—perhaps within weeks—everyone who works with polyethylene film or tubing—from purchasing agent to machine operator—will have a single handy guide to the quality and properties of the material he's buying or running.

The buyer will be able to demand a simple, affirmative answer to one question—"Does it meet the industry standard?"—before placing his order. The mechanic, finding a hallmark on each roll, can adjust his equipment for accurate operation without worrying about variability of the material.

Their confidence will reflect five years of hard work by a group of packaging and plastics experts that should produce—at last—a workable standard for polyethylene film that for the first time defines and sets up tolerances for such important packaging properties as film width and thickness, yield, flatness, density, strength, slip, clarity, ink adhesion, heat sealability and odor.*

As this issue goes to press, the proposed standard has cleared formidable hurdles. It has been approved and drafted into tentative form by its sponsor, the Polyethylene Film Committee of The Society of the Plastics Industry, under Chairman Jules Pinsky. It has passed cautious inspection by the National Bureau of Standards, which serves as consultant to the Dept. of Commerce and which rules on the technical sense of any proposed standard and unifies the testing procedures worked out by the SPI Committee.

Now, it is before the voters—several hundred resin producers, extruders, converters and large users of polyethylene selected from industry and association lists by the Commerce Dept. They must say whether this standard meets the needs of the industry. If a majority approves, it will be authorized by the Secretary of Commerce.

To comply with this proposed standard, the manufacturer must meet stringent requirements in making his film.

In return, he will be permitted to use a distinctive hallmark on every roll of film or tubing. The mechanic need only spot this sign to know that the material comes within allowed property tolerances

* See also "Standards for Polyethylene," MODERN PACKAGING, March, 1957, p. 230.

Two degrees of clarity, which vary with resin density and extruding techniques, are for packagers who desire either "slightly hazy" or "high-clarity" material to meet their packaging needs. Slip, block, finish and strength are also covered in this standard.

MATERIALS COURTESY UNION CARBIDE PLASTICS CO.

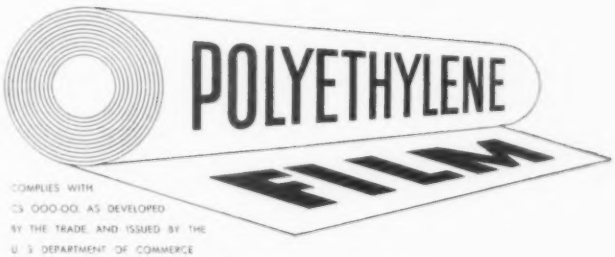
takes shape

Here are the results of long industry study which for the first time will provide a hallmark of compliance and assure packagers of consistent quality in film

and that it will give uniform machine-handling performance, roll after roll.

Nobody pretends that this standard is the final answer to all production problems involving polyethylene film. In drafting the specifications, it was necessary to accommodate individual differences within resin supplier, extruder and converter groups and to compensate for their divergent—and sometimes opposed—viewpoints. The result, however, was accomplished by the joint effort of many men from resin manufacturing, extruding and converting companies, consultants, trade associations and machinery manufacturers who served on the committee.

An even larger problem was posed by the rapid expansion of technical knowledge about polyethylene films and resins. To develop any standard at all, it was decided that these specifications must represent progress as of October, 1958, and not the research goal of the future. To handle further developments as they arise, a standing committee has been selected by the Dept. of Commerce from recommendations made by SPI. These men, whose names and companies will be listed in the final printed standard, can then be contacted by those interested in commenting on or revising the standard.



This hallmark of quality can be placed by manufacturers on every roll of polyethylene film or tubing that meets stringent property tolerances specified in the new industry-developed standards, which have now been drafted into tentative form and are up for vote before several hundred resin and film suppliers, converters and package users.

The specifications

Here are highlights of the proposed standard, as outlined by Dr. Pinsky:

The standard covers "flexible (non-rigid) unsupported polyethylene film, 0.004 in. or less in thickness, having a density of 0.914 to 0.929 gm. per cubic centimeter and intended for general use or packaging. The film shall be essentially natural color unless a color has been agreed upon by supplier and purchaser. Polyethylene resins meeting the requirements of ASTM D 1248 Specifications for Polyethylene Molding and Extrusion Materials, Type I, Class A, Grades 2, 3 and 4, have been found suitable for making films meeting the requirements of the Commercial Standard."

In order to define the various properties, polyethylene film was separated into various types, grades, classes and finishes (see Table I, p. 100).

Here is a brief discussion of the specified film properties and the reasons given by the committees for adopting them:

Types—It was agreed that two types of impact strength should be described: *Type I*, "Normal-impact" strength, covers polyethylene film used for such soft goods as sweaters and garment bags—packaging where no real load is put on the film. *Type II*, "High-impact" strength is for those applications where good impact resistance is a requisite, such as packaging for powdered milk, potatoes and oranges.

Grades—Slip was the determining factor in establishing three grades for the film: *Grade 1*, "Low slip" for industrial film, large-size bags and other bags where ease of opening is not a problem. *Grade 2*, "Slip" is for polyethyene that can be opened with dispatch when made into bags. *Grade 3*, "High slip," as the name implies, is film that has an especially low coefficient of kinetic friction.

Care was taken to define the slip of polyethylene film apart from block. Block is the property in a film that causes two mating film surfaces to "weld" together so tightly that it is virtually impossible to separate them. Slip, however, is that property which allows one layer of film to move in shear across a

Table I: Quick checklist of how proposed standard defines film properties

Property	*Value*	*Test method*
A. Dimensions		
I. Thickness		
Film width (in.) / Nominal thickness (in.) / Tolerance (%)		SPI Polyethylene Film Committee
36 and less / 0.0010 through 0.0014 / ±25		Class 1—General purpose
0.0015 through 0.0040 / ±20		Class 2—High accuracy or arbitration
over 36 / 0.0015 through 0.0019 / ±25		
0.0020 through 0.0040 / ±20		
II. Yield	Tolerance (%)	SPI Polyethylene Film Committee
Any one roll	±10	
Lots up to 500 lbs.	±10	
Lots 500-2,500 lbs.	± 5	
Over 2,500 lbs.	± 3	
III. Width		
Film width (in.) / Tolerance (in.)		
12 or less	±1/8	
Over 12 to 30, inclusive	±3/16	
Over 30 to 50, inclusive	±3/8	
Over 50	±1/2	
IV. Length	Continuous; splices allowed in less than 20% of rolls	
V. Flatness		
Film width (in.) / Variation (%)		SPI Polyethylene Film Committee
Up to 12	±0.4	
Over 12 but not including 36	±0.7	
36 to 60	±1.0	
B. Density	0.914-0.929 gm./cm.^{3}	ASTM D 1505
C. Appearance	Good commercial practice	
D. Impact	Type 1. Normal impact resistance	SPI Polyethylene Film Committee
Film thickness (mils) / Soft ball test (ft.) / Dart test (gm.) / Sandbag test (ft.)		
1.0 / 1.0 / 40 / 1.5		
1.5 / 1.5 / 65 / 2.5		
2.0 / 2.0 / 85 / 3.4		
3.0 / 3.0 / 125 / 5.3		
4.0 / 4.0 / 165 / 7.0		
Type 2. High impact resistance		
1.0 / 2.5 / 105 / 5.5		
1.5 / 3.5 / 140 / 6.5		
2.0 / 4.5 / 175 / 7.5		
3.0 / 6.5 / 245 / 9.5		
4.0 / 8.5 / 315 / 11.5		
E. Tensile	Lengthwise / Crosswise	ASTM D 882, Method A
I. Tensile strength (min., psi)	1,700 / 1,200	
II. Elongation (min., %)	225 / 350	
F. Slip		SPI Polyethylene Film Committee
Grade 1, low slip	Not greater than 0.8	
Grade 2, medium slip	Not greater than 0.5	
Grade 3, high slip	Not greater than 0.2	
G. Clarity	Normal / High	
I. Gloss	Min. 30 / Min. 45	ASTM D 533 at 45 deg. angle
II. Haze	Max. 25 / Max. 11	ASTM D 1003
III. Visual see-through	Min. 2 ft. / Min. 20 ft.	SPI Polyethylene Film Committee
H. Ink adhesion		
Finish 1. Untreated for ink adhesion	No requirement	SPI Polyethylene Film Committee
Finish 2. Treated for ink adhesion	Less than 10% pick-off	
I. Heat sealability		
Heat seal of film	Coefficient of heat-seal strength, min.	SPI Polyethylene Film Committee
Treated to treated	0.60	
Untreated to treated	0.60	
Untreated to untreated	0.75	
J. Odor	No objectionable odor	SPI Polyethylene Film Committee
K. Food & drug packaging	No materials objectionable to FDA	
SPECIAL TEST METHODS		
Conditioning		ASTM D 618
Sampling		SPI Polyethylene Film Committee

Rolls in shipment or lot	No. of rolls to be sampled	Rolls in shipment or lot	No. of rolls to be sampled	Rolls in shipment or lot	No. of rolls to be sampled
2-15	2	66-110	7	301-500	25
16-40	3	111-180	10	501-800	35
41-65	5	181-300	15	801-1,300	50

NOTE: Width is the total dimension across a single thickness of the material. For tubular material, the width is one-half the total circumference.

mating surface and is dependent on the coefficient of friction.

Clarity—Clarity was graded as: *Class 1*, "Normal clarity," to encompass run-of-the-mill, slightly hazy polyethylene film, and *Class 2*, "High clarity" polyethylene film that gives maximum visibility to contents packaged within it.

Finish—The problem of describing receptivity to ink was difficult. Finally, it was decided to label this quality "Finish" and divide it into two classifications: "Untreated for ink adhesion" and "Treated for ink adhesion."

Film properties—Assigning values to various film properties necessitated compromise. Probably the toughest property to specify was a tolerance for thickness. The final value arrived at of ± 20-25% (according to width and gauge) does, according to the committee, require good workmanship on the part of the extruder and assure reasonable local variations for the converters. As with every other property, converters can make special premium arrangements and obtain closer gauges for specific applications. Similarly, for some usages the extruder can make and sell film with gauge tolerance beyond the above values.

Measurement of thickness is a real problem. Many people, says Dr. Pinsky, have a misplaced faith in hand micrometers. Without specification of calibration and pressure in the micrometer, very large gauge variations can be "observed" which are mainly instrument measurement errors. For this reason, two types of thickness measurement are specified in the standard: *Class I*, for general-purpose measurements, is designed for a maximum accuracy of ± 0.0001 in. and encompasses dead-weight dial micrometers with a 4-oz. load. Regular hand micrometers and hand gauges without specified anvils and loads are *not* recognized as proper equipment for measurement. *Class II*, for high accuracy of ± 0.00005 in. This equipment embraces optical, air, electronic and radiation apparatus.

The yields of film are to be measured simply by the area of a roll divided by its weight. Width tolerances are also included. Length shall be as agreed on and shall not contain more than two flagged splices per roll.

Flatness of polyethylene film influences its handling or "machinability." Lack of flatness is usually caused by variations in length across the width of polyethylene film or tubing. The test method describes a procedure for shredding a 100-in. length of the film into 1-in.-wide strips, then measuring the differences.

Density is to be measured by the "density gradient column" method as described in ASTM D 1505. While it is recognized that the density gradient column is not a tool possessed by smaller laboratories, this technique was chosen because of its great accuracy and serviceability as a referee method.

As to appearance of the film, it was realized that an objective test was impossible. Thus, a verbal limitation was attempted: "The material shall be as free as is commercially possible of gels, streaks, blisters, pinholes, particles of foreign matter or undispersed raw material. The edges shall be free of nicks and cuts to the unaided eye. There shall be no visible evidence of damage from shipping."

Impact resistance was an important and difficult quality to define. It was decided that, although each test measures a slightly different property, a choice of three different methods would be allowed: The soft-ball, the dart or the sand-bag test. The dart test has been simplified for convenience in control purposes. It was impossible to select only one of the three, since a single test would eliminate too great a segment of industry. But it is hoped that a single test, perhaps a modified tensile-impact procedure, will soon be worked out so that quantitative impact value can be found simply.

Tensile-strength values have been set at a reasonably high level to assure good packaging quality.

There are great differences in the surface, haze and regularity of polyethylene film that influence its optical properties. [*Continued on page 171*]

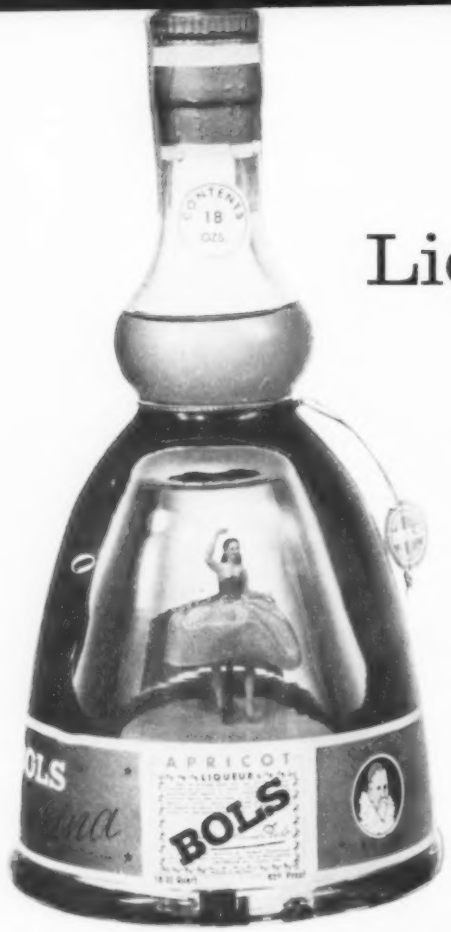
This is out. Hand micrometers are not recognized for accurate measurement of thickness under the new standard, because uncontrolled pressure and calibration in these devices can lead to large instrument errors. Dead-weight dial micrometers with 4-oz. load and optical, air, electronic and radiation apparatus have been approved for two classes of thickness measurement.

Liquor binge bigger

No more decanters? Well, not exactly. This year's binge of embellishments in the liquor trade has gone far beyond that stage.

Ballerina dolls dance in bottles with concealed music boxes. Ceramic barrels for port and sherry are equipped with tap spigots. Bourbons are appearing in Grecian urns and chinaware Pompeiian water vessels. One decanter has huge, gold-colored caps that can be re-used to hold cigarettes.

And ultra-fancy containers are not all. Gift wraps of gleaming embossed foils and ribbon bows are becoming the most lavish the packaging field has ever seen. And in some cases, a colorful rectangular carton is not even enough. Folding boxes of six-color-printed laminated foil are being designed as toy houses with gabled roofs that become playthings for the kids after the stapled-on label tag is removed.



Ballet in the bottle. Music box concealed in base of a bottle for Bols Liqueur plays dance tune while tiny ballerina figure pirouettes when bottle is raised to pour.

Noblest bourbons of them all! James B. Beam's Bonded Bourbon appears in a Grecian urn, reproduced in black glass with fired-on design. (*Bottle, Wheaton Glass Co.; carton, Continental Can's Gair Div.*) Early Pompeiian water vessel inspires chinaware for Beam's 86-proof sour-mash bourbon. Elaborate container is in velvet-lined, leatherette-covered, hinged-lid, set-up box with snap-clasp closure. (*Container, Regal China Co.; box, Art Craft Mfg. Co.*)

Cigarette-box cap. New idea in extra frills is the over-sized decorative cap of metalized plastic on Calvert Reserve "Holiday Host Decanter." Cap is re-usable as a receptacle for trinkets or cigarettes. (*Decanter, Owens-Illinois; cap and base, Mack Molding Co. and Pittsburgh Plastic Corp.*)

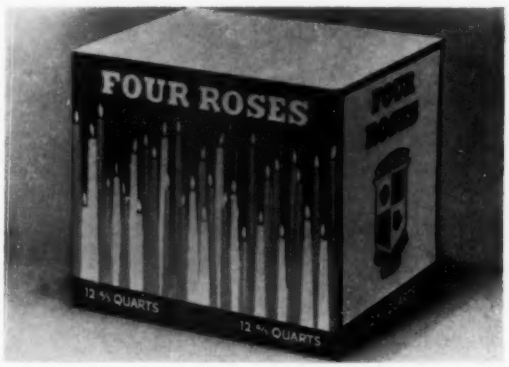
than ever

It looks like a Roman orgy this year as distillers turn from decanters to dancing dolls, ceramic barrels, Grecian and Pompeiian vessels

Even shipping cartons are being given the glamour treatment for store display effects and to push case-unit sales as gifts.

The high-style liquor gift package today costs practically as much as whiskey itself did 100 years ago, opined Ross Corbit, president of Hiram Walker, Inc., on the occasion of that firm's 100th anniversary as a distiller this year. He announced that his company is spending at least 20% more this year than last on the design and production of its gift packages.

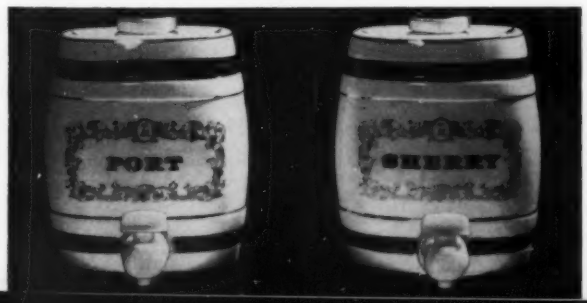
Fancy packaging, apparently, is something that the makers of the nation's liquor just can't swear off, despite all past efforts of the industry to get out from under. Increasing importance of women as gift buyers of liquor is the reason given by industry leaders for the continued elaborate dressing up.



Shipping cases go lavish, too. Flaming, multicolor candle motif, gravure printed on foil-backed wraps for individual packages of Four Roses, has been adapted for full-color lithographed corrugated shippers that double for display, promote case sales as gifts. (*Cases, Owens-Illinois.*)

Toy houses for the kids. Gift cartons are blossoming forth as something more than standard rectangular shapes. For liqueurs, Hiram Walker introduces four foil-laminated, gable-top cartons printed in as many as six colors to resemble three-story houses. They make effective displays and convert into toys simply by removing stapled label tags. (*Cartons, Sutherland Paper Co.; design, Roger Bradfield, Minneapolis.*)

Flagon of English china. Chivas Royal Salute 21-year-old Scotch whisky is being presented in the third edition of a famous Royal Doulton ceramic container, encased in a velvet pouch with silken drawstring. The bronze-colored foil carton is lavish with deep embossing.



19th century barrels. Nostalgic earthenware holds W. & A. Gilby, Ltd., Triple Crown Port and Bonita Sherry imported from England. The wood-and-cork bung is secured to barrel by a foil-laminated strip. Product is dispensed through a plastic tap on the side. Barrels, when empty, may be turned into lamps by inserting light fixture in top and threading cord through tap orifice. (*Barrels, Royal Victoria Pottery, England.*)

Simple to set up

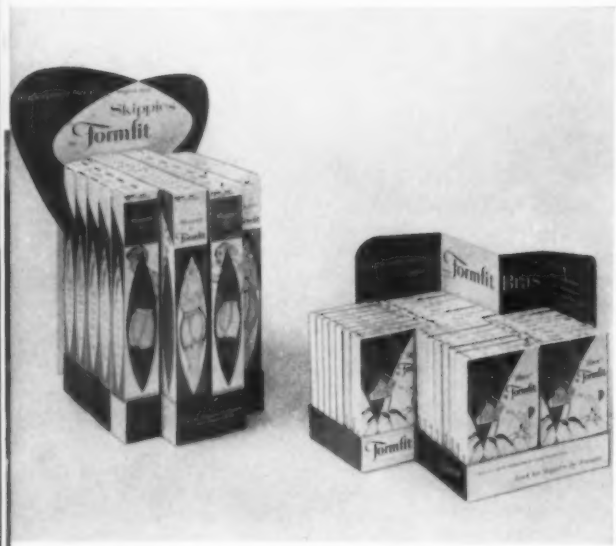
All the retailer has to do to prepare this three-color, corrugated floor merchandiser for self-selection display is to remove it from the shipping container. The die-cut sleeve is shipped fully stocked with 24 Small Fry batons, made by Suburban Toy & Mfg. Corp.

The unit is an interesting example of construction for awkward-to-manage objects. Rows of vertically aligned die-cut holes in the unit's base and center sections hold the baton shafts securely in place. The bottom section also is built up slightly in the rear, elevating the two back rows of batons for easier selection. The display's open front (interrupted only by the slim center panel) permits maximum product visibility.

As in many current point-of-purchase pieces, this corrugated merchandiser makes use of the display appeal afforded by fine printing surfaces. Its white outer liner is printed with a gay circus motif in red, blue and black. Promotional copy appears on the front and both side panels. The company name is printed in alternating colors against circular background spots on the display's base. *Display by The Ohio Boxboard Co., Rittman, O.*

Display Gallery

'Irregular' appeal for self selection of soft goods



Irregular construction of two new folding-paperboard counter merchandisers is calculated to upgrade the self-selection appeal of Formfit Co.'s packaged foundation gar ments. Both displays, shipped flat, consist of die-cut rear panels and "honeycombed" base sections into which the individual cartons are inserted by the dealer. Time required for set-up is negligible, the company says.

The Formfit "Skippies" merchandiser holds 24 cartons, one to a partition. The base is constructed so that two projecting center rows hold seven cartons each while the two outer rows hold five cartons each. This staggered pattern, the company believes, offers greater eye appeal than the conventional equal-row arrangement.

A similar technique is used on the counter unit for Formfit Bras. Its base has eight partitions, each holding four cartons. The partitioned section is attached to the scored display panel in such a way as to form a stepped, right-angled pattern. Both display units are printed in red and purple on a white background. *Design and displays by International Graphics, Inc., 30 N. La Salle St., Chicago 2. Cartons by Ace Carton Corp., 5800 W. 51 St., Chicago 38.*

Convertible merchandiser

Bauer & Black is giving point-of-purchase support to a national advertising campaign for its improved Curad plastic bandages via a self-selection merchandiser that converts from a floor display to a counter display simply by removing the tray from its base. The tray holds a selection of four dozen metal cans of bandages.

The corrugated floor-or-counter unit is backed by a die-cut riser that promotes a "pilferproof" in-package premium—a gold-colored strip of material that the customer can use to imprint her name on a wallet, hatband or other personal item. An actual wallet imprinted with name, attached to the riser, demonstrates the premium offer.

When the display piece is used as a floor merchandiser, the tray section is held securely in place by die-cut projections which are integral to the design of the knee-high base section. Bold copy on the front panel of the display base promotes the bandage's new, improved pad. On the side panels, reverse-printed similar copy is integrated with a vertical, die-cut arrow that points down to a large illustration of the product showing the new pad. *Display by Berger-Rivenburgh, Inc., 469 E. Ohio St., Chicago.*

Display Gallery

Economy and 3-D in a one-piece counter display

An economical, easy-to-set-up counter display has been adopted by Evans Rule Co., Elizabeth, N. J., to merchandise a special offer of its Power Tape brand steel measuring tapes in leather holsters.

The one-piece, printed paperboard display unit, pre-scored and die cut, is shipped with six of the products in a chipboard sleeve. By folding along the score lines, the display's rear panel achieves a three-dimensional "shadow-box" appearance. A die-cut tab in the recessed center of this panel holds one of the holstered tape measures securely in place, to integrate it with surrounding promotional copy. The five other products are locked in position on the display's projecting base by tabs that are inserted between the holster and the bottom of the metal case. These locking tabs, the company points out, also discourage pilferage.

Copy on the black-and-yellow-printed counter merchandiser calls shopper attention to the special offer of tape measure and leather holster for the regular price of the tape measure alone. Product features are pointed up on circular spots on the flanking side panels. *Display by Chopp Printing Specialties, Inc., 350 Hudson St., New York 14.*

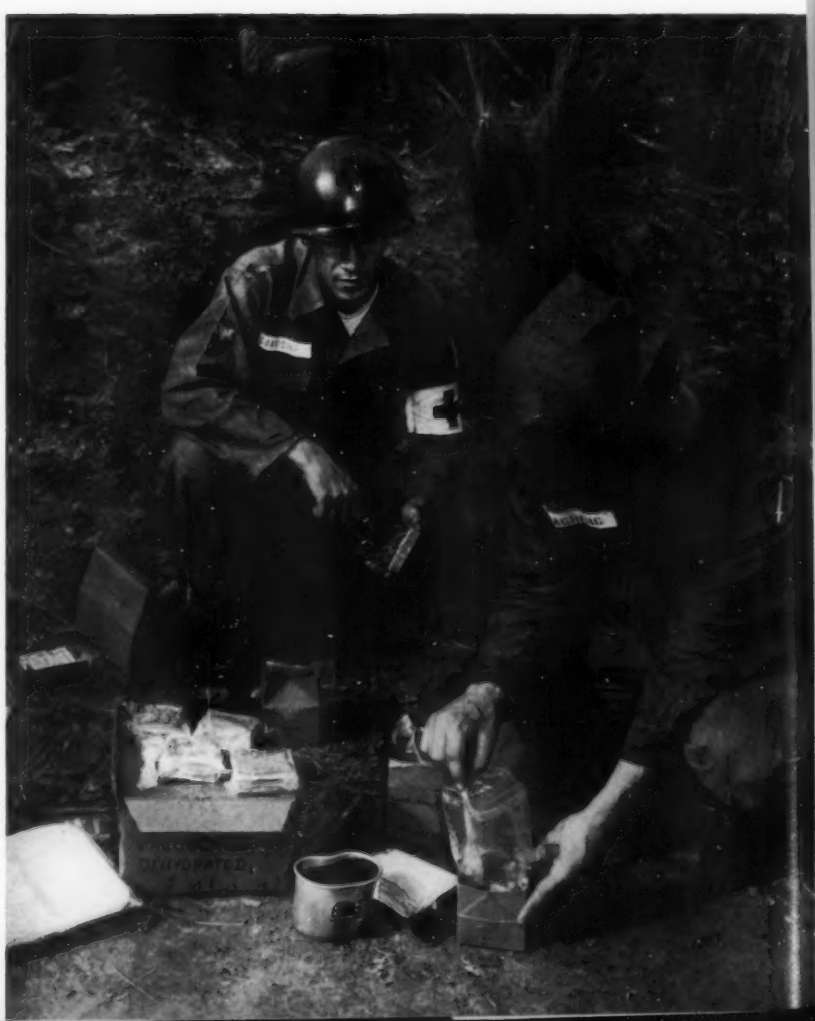
EXPANDING

Soldiers in our atomic-age Army are field testi
a new food carton which, when opened, is
radically increased in volume that its dehydrat
contents can be greatly expanded in rehydration a
served right in the original package. The princip
of the expanding carton will be applicable to ma
commercial packaging requirements.

A bellows-type top section formed by the open
carton flaps not only provides the increased capacit
but also maintains the over-all strength of the co
tainer. An enclosed polyethylene bag is opened a
inserted as a protective liner.

Developed by the Quartermaster Food & Contain
Institute, the design, with its liquid-tight liner,
expected to find added use in civilian packagin
Gustav L. Nordstrom, executive director of the Fol

Scores and pleats in top flaps and a manufacturer's joint that runs to the top of the flap make possible the expanding carton which, in closed position, looks like a normal glue-flap package. Weight of board and bellows-top design give carton enough stiffness to hold a rehydrated product.



Top flaps unfold to increase volume by 32.4% and accommodate expanded volume of Army dehydrated field rations after rehydration. Soldier is preparing precooked stewed fruit and chili with beans by the addition of hot water alone. Polyethylene bag comes in package with foil-wrapped foods.

CARTON

Developed by the Army for rehydration of rations, bellows-top container has a third more volume when opened and offers possibilities for packaging a wide range of mix-and-serve civilian products

ing Paper Box Assn. of America, sees potential application in the packaging of such powdered mix-and-serve products as fruit drinks, milk, cocoa, gelatin desserts and puddings, hot cereals, instant coffee and similar items.

Before use, the new container resembles any glue-flap folding carton. When opened, however, it reveals diagonally scored and pleated top flaps that are not die cut at the corners as in a standard carton. Moreover, the glued side seam runs from the bottom of the carton to the top of the flaps, enabling the bellows to form a strong extension of the carton and greatly increase volume.

In its present form, the experimental folding carton is made from one of three materials: 36-pt. unbleached solid manila board, 40-pt. manila-lined chip or unbleached kraft-lined chipboard. A 6-by-6¾-by-6¼-in. carton is the tentative standard. It holds a six-man portion of dehydrated food, which is further enclosed in a heavy foil wrap.

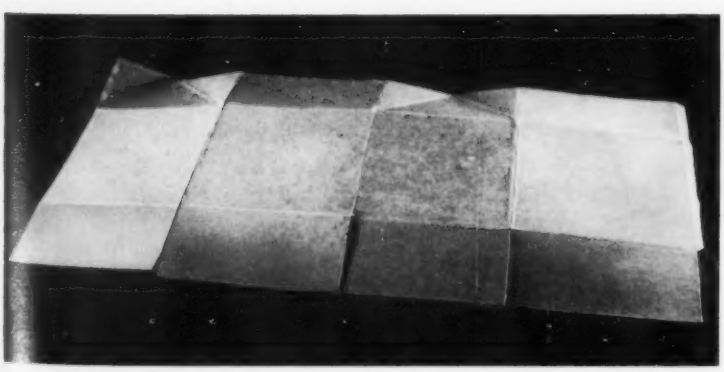
When opened, this carton increases in depth by 3 in. and in internal volume by 121.5 cu. in. This is a 32.4% increase in volume. By adjusting the ratio between depth of the closed container and the height of the bellows top fold, the percentage of volume increase can be varied over a wide range to accommodate different dried products.

In use, the wrapped contents of the carton are removed and the 4-mil polyethylene bag is unfolded and inserted in the empty carton. Hot water is added to a mark on the inside of the carton and the dehydrated precooked food is unwrapped, blended and allowed to reconstitute for a few minutes. The food is then served directly from the carton on disposable trays furnished with the pack.

Called "Quick Serve Meals" by the Army, the cartoned foods offer a promising solution to the many problems of feeding fast-moving, modern troops. Since men in combat can prepare their own meals easily with the new pack, trained cooks and bulky food-preparation equipment can be eliminated in forward areas and it may not be necessary to recall troops to a support area for rations.

Technical problems of weight, handling, size and product variety are now being worked out in field tests. Test sizes other than the six-man pack range from 3¼ by 3 by 1 in. to 11⅛ by 5¾ by 4¾ in. The smaller sizes are constructed from 20-pt. manila-lined chip, unbleached solid sulfite board, or 24-pt. manila-lined chip or kraft-lined chip with a 60-lb. Mullen burst strength.

For the civilian retail and institutional markets, QM technicians feel that the unique carton could be lined with a leakproof film by improved laminating techniques to add new convenience to any powdered product requiring addition of liquid. Because they have been produced so far in small test quantities only, cost figures are not available.



Simple pattern for carton includes diagonally scored top flaps rather than usual die-cut corners of standard folding carton, plus extended side seam for gluing (right).

Detective work still lives in London's historic Baker St. Unaware that their reactions are being closely watched, neighborhood housewives shop at leisure in a complete self-service food market operated anonymously by the Metal Box Co. on the street level of its new Baker St. headquarters building.

PACKAGE TESTING ON

Operating a self-service food store in its own building

gives British package-supply firm

a running check on consumer preferences and buying practices

One of the world's most interesting packaging laboratories is an unassuming self-service food store that operates at 37 Baker St., in London, in the heart of the neighborhood made famous by the Sherlock Holmes stories.

Although the housewives who come in with their market baskets are unaware of the connection, it is more than happenstance that the modern store is located on the ground floor of the very modern building that houses headquarters of the Metal Box Co., Ltd., one of England's largest package suppliers.

The Metal Box Co. opened the self-service store a year ago to act as a shop window for the packages which it makes for its customers in industry and also as an experimental retail store to be used as a laboratory to test the reactions of the public to packaging ideas and designs. This is an entirely new idea and indeed—despite the logic of the idea—it is probably the only store in the world run by a package-making firm to test its own packages.

Market research in the store can be undertaken either by the company for its own purposes, or by the company at the request of its customers, among whom are many of the biggest canners and packers in Great Britain.

Several types of research are conducted in the store, which is a fully stocked food outlet not by any means limited to products for which Metal Box Co. happens to furnish packages.

First comes *market intelligence*. This is the obtaining of information about new packs and new products which have come on the market and also the investigation of activities to promote sales. This information was previously obtained only by visiting other peoples' stores, but now the company can draw both on such outside information and on the

Decisions of these browsing shoppers will help to guide marketers of British packaged goods on label design, colors, shelf positions, display aids and other packaging questions.

facts it collects in its own store on a carefully controlled basis.

Second comes research into *retailing techniques*. This is a matter of finding out how different conditions affect sales and methods. For instance, tests are undertaken of the sales of garden peas, baked beans and soups when placed at eye level, as against sales when placement is at other levels. On the face of it, eye level should be the best position, but until experiments are carried out it is impossible to tell whether, in fact, people buy things more readily at eye level or at the level at which their hand can easily take them off the shelf. A second example of research into retailing techniques is being carried out on certain packs which have selling messages on streamers pinpointing them. The effect of these messages at the point of sale is being studied at the present time.

THE FIRING LINE

Third is *research into new packs and products*. This is self-explanatory, but it is worth while listing one or two examples. For instance, sales of jellies in a newly designed pack are compared with sales of the same jellies in an earlier pack and are also compared with the sales of competing products of the same type. A slightly more unusual type of experiment in this category is the experimental sale of cake-decoration packets, which are specially made for the occasion.

Besides this, transparent egg containers are on sale to assess the commercial possibilities of this sort of container in advance of producing them in quantity. The packs are made up by hand or semi-automatically and if their sale is a success, no doubt quantity production will follow.

While this experiment is being closely watched by American package suppliers who have seen it in operation, the Metal Box Co. believes it is still too early to draw any striking conclusions from the store either as a commercial undertaking (it is said to make money) or as a market-research guinea pig. The precise nature of the store must be taken into account when its research is evaluated. It has a rather different public from other large self-service stores in London because it is in the West End, a high-class shopping area, and it maintains a standard of presentation and display above the average. The people who use it are predominantly of the middle-income group.

In another year or so it may well be that the store will have given the Metal Box Co. and the canners and packers, who are the company's main customers, a great wealth of information. It should also be possible to check certain points which are generally assumed to be true by retailers, but which do not rest upon a scientific basis.

Owens-Illinois Assures You A Complete Packaging Approach

Continuing Research

Pure research into fabrication of glass, *packaging research* into processing and handling methods in customer plants, *market research* into consumer attitudes. All add up to finer packaging.

Engineered Design

At Owens-Illinois, your package's *three* needs are taken into account: 1) Considerations of its function in the retail store, 2) its operating efficiency, and 3) its consumer utility.

The Right Container

Versatility of facilities and talents make O-I your best source of supply. In container development—beauty, utility, tradition are blended in the right proportions for your product's needs.

The Right Closure

Through long and continuing research O-I has developed the most advanced metal and plastic closures. Helping you choose the right closure is another function of O-I's packaging service.

Needed Fitments

O-I specialists are keenly aware of sales benefits derived from plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.

Merchandising Cartons

Modern cartons developed to serve you efficiently in the retail store and warehouse . . . as well as on your own filling line and in transit. This is the new openized carton with easy-open flaps.

Duraglas Containers are easy to serve from, easy to reseal for storage.

The convenience package for instant coffee . . . perfect for any table setting!

First spoonful or last . . . your instant coffee is *protected* in a Duraglas® Container

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Duraglas Containers are a part of the Owens-Illinois Complete Packaging Approach . . . the best container, tamper-proof Tacseal, handsomely lithographed closures . . . plus eye-catching label designs, sturdy merchandising cartons.

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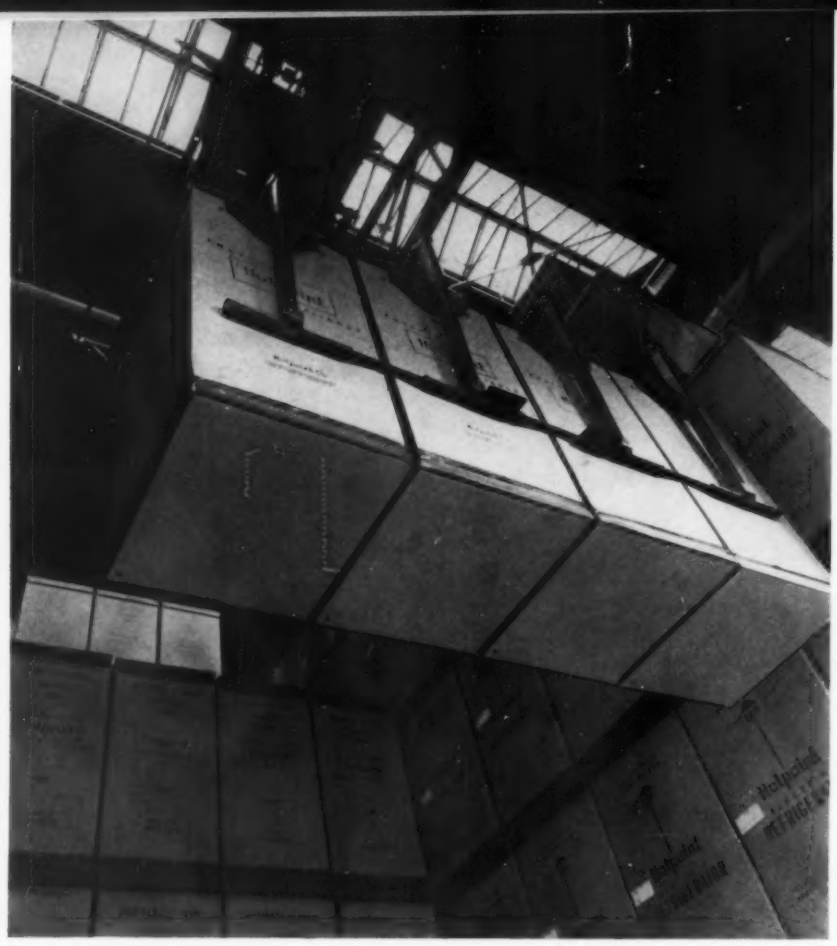


Four at a time, huge cartoned appliances are stacked six tiers high in Chicago warehouse of this General Electric division.

With the greatest of ease

350-lb. appliances cased in corrugated and conveyed by overhead cranes rest only on interlocked or glued carton ends during flying trip through Hotpoint warehouse

A dramatic demonstration of the adaptability of a traditional type of shipping container to the demands of up-to-date appliance packaging and warehousing methods can be seen at the Chicago plant of Hotpoint, a division of General Electric.

Holding appliances that weigh up to 350 lbs. each, specially constructed corrugated cartons are distributed in the warehouse by huge overhead cranes that simply clamp or hook the upper edges of one or more boxes at a time and whisk them to a warehouse stack that may run six cartons high, or to a floor location for pick-up by clamp trucks. In transit through the air, the only thing between a heavy appliance and the warehouse floor is the carton bottom, which is either interlocked or glued.

For this critical job, Hotpoint is using two basic carton designs of three-piece construction to hold more than 100 model variations of refrigerators, dishwashers, water heaters, ovens, ranges, washers and dryers. One is a cap-and-tube type; the other, a glued-flap carton.

This is how the cap-and-tube carton is put together at the end of the product assembly line: First the printed tube is formed and, in a semi-automatic

operation, two operators attach the top with steel strapping. This carton construction is similar to the interlocked seaming of metal cans. The tube has integral, turned-over flaps at top and bottom that interlock with U-shaped flaps on the corrugated covers. The steel strapping binds the flaps tightly in position to prevent them from opening.

The capped tube is then slipped over an appliance moving along a roller conveyor on a wooden skid—the only piece of wood in the final package. The bottom is moved under the assembly by dropping it into a slot under the conveyor. As the unit passes over this point, the corrugated bottom piece is picked up and rides under the wooden skid in perfect position. The tube flaps and bottom cap flaps are interfolded into locking position and the bottom is steel strapped to complete the package.

The glued-flap carton is assembled in much the same way. At the end of the production line, appliances are conveyed to the packaging station, riding on a similar wooden skid frame. A huge, printed, corrugated tube is slipped over the appliance and tailor-made corrugated cushioning pieces are fitted between the appliance and the tube. The top is a

Tube capped with steel-strapped interlocking top is lowered over refrigerator resting on wooden skids and interlocking bottom that will also be strapped.

Hooking plates in U-shaped crane device are positioned by an operator to make sure they slip under the interlocking cap prior to lifting. The inverted T-shaped frame is for guiding purposes only.

glued unit of two pieces that has overhanging outer flaps and another set of inner flaps that fit snugly inside the tube. After the top piece is fitted onto the tube, the bottom piece is placed under the tubed appliance just as for the cap-and-tube carton.

The entire assembly goes into an automatic L-shaped gluing machine that seals both the tops and bottoms to the tubes. From this point it moves to the warehouse for storage and shipping.

In the warehouse the cartoned appliances travel on conveyors to one of three major areas in the 180,000-sq.-ft. space. Three overhead cranes pick the cartons from the conveyors and move them to storage stacks or to a loading point where clamp trucks pick them up for delivery into rail cars for shipment.

For the cap-and-tube cartons, there is a specially designed crane attachment consisting of a U-shaped pipe frame with four metal plates on each side. The metal plates hook under the lip of the strapped cap to lift the cartons at this point. The piping presses against the lower part of the cartons to steady them as they move through the air. Four cartons are conveyed at one time.

The crane that handles the glued-flap carton has a vise-like clamp that grabs the carton on opposite sides, compresses the carton from ½ to ¾ in., then lifts and positions it. One or two such cartons can be handled by this crane at one time.

Although appliances weighing up to 350 lbs. are packaged in these cartons and stacked six units high, there have been few failures with the 300-lb.-test corrugated board that Hotpoint uses.

While cartons seemingly hang precariously in movement above the warehouse floor, the company points out that the skilled mechanical handling of these large appliances subjects them to much less rough handling than smaller cartons get by hand.

While specially designed for speedy warehouse handling, the cartons perform well during subsequent conventional movement via power trucks, rail shipment, hand trucks, etc., the company says.

SUPPLIES AND SERVICES: *Cartons by International Paper Co., 5133 W. 65 St., Chicago 38; National Container Corp., 405 Lexington Ave., New York 17, and Stone Container Corp., 4200 W. 42 Pl., Chicago 32. Steel strapping by Signode Steel Strapping Co., 2600 N. Western Ave., Chicago 47. Gluing machine by Standard-Knapp, Div. Emhart Mfg. Co., Portland, Conn.*

Crane clamps lift two cartons at a time, compressing sides slightly before lifting.

Glued-flap carton, a variation of Hotpoint's corrugated container, is assembled by placing a tube over the appliance, inserting cushioning pieces and fitting a double-flapped cap on top with one set of flaps on each side of container body. Similar bottom piece and top and bottom glue are applied in final automatic sealing operation.

Canned 'Play Doh' in folding carton four-color printed to look like a range, along with toy baking utensils, is expected to increase company's sales another 123% this year. Small items are enclosed in a polyethylene bag. The carton's locking tab is designed to open like an oven.

Packaging saves a business

Obsolete wallpaper cleaner packaged as modeling clay and sold as toy makes fantastic sales comeback from dwindling $180,000 a year to estimated $3 million for 1958

This is a story of how packaging and an altered approach to a product suffering from obsolescence have lifted a small company out of the doldrums to record sales 168% higher than its best previous year. And sales this year are expected to climb another 123% due to:

► Packaging the product—originally a wallpaper cleaner—as a toy modeling material under the name of "Play-Doh" and

► Offering it as a "Little Baker" set in a folding carton designed to look like a toy range containing a can of the Play-Doh with a set of toy Mirro aluminum baking utensils, including pans, cookie cutters, rolling pin and pastry trimmer.

Kutol Products, Inc., Cincinnati, once did well with the putty-like wallpaper cleaner, but the trends to washable wallpapers and painted walls hit this product hard. The successful idea of packaging and selling the product as Play-Doh happened quite by accident when sales of the wallpaper cleaner had dwindled to $180,000 a year.

Joseph S. McVicker, son of the company's founder, saw his two-year-old daughter playing with the wallpaper cleaner. He took it to a sister-in-law, who operates a nursery school. She was enthusiastic about its possibilities as a play material.

As a result of her suggestion, the product formula was changed. Ingredients were added to give the product pliability and fragrance. All toxic ingredients were removed and the altered product, called Play-Doh, was canned as a children's modeling compound and sold to the Cincinnati school system for use in art classes.

Mr. McVicker approached toy buyers in department stores. He was making progress, but sales dawdled until the product was packaged in four 8-oz. metal-end fibre cans with tear-string opening, each containing a different color. Last year sales were $1,340,000 through Rainbow Crafts, Inc., a company set up by Kutol to handle distribution.

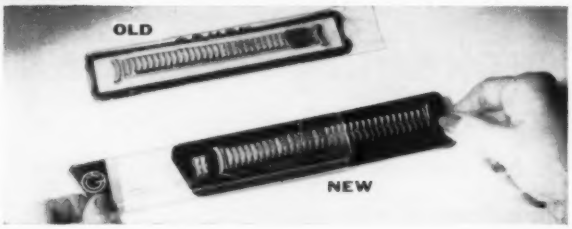
This year, addition of the "Little Baker" set has catapulted Play-Doh into a top seller in the toy field, with sales expected to reach $3,000,000.

A million of the "Little Baker" set cartons were ordered, after a final design was selected among 17 that were considered. The folding box, made of newsback white patent-coated stock and printed in four colors, is constructed to serve as a retail toy display and a toy range, complete with "oven" that opens, a storage box and a carrying case. One flap serves as a carrying handle. A locking tab forms the oven handle, while scored corners instead of flaps permit the front of the box to open like an oven door. All elements fit in the "oven."

SUPPLIES AND SERVICES: *Folding boxes by Continental Can Co., Inc., Gair Boxboard & Folding Carton Div., 530 Fifth Ave., New York 36. Metal-end fibre can with tear string by Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis. Wrap-around label on can by The U. S. Printing & Lithograph Co., 340 Beech St., Cincinnati 12. Polyethylene bag by The Dobeckman Co., 3301 Monroe Ave., Cleveland 13.*

Two recessed cavities in flocked polystyrene base of new package eliminate previous laborious steps of securing watchbands to former velvet inserts with metal hooks and including tiny envelope with extra links. Extruded transparent sleeve slips over the assembled components, holds everything in place.

Transparent sleeve for new package provides a neat closed unit suitable for gift merchandising. It can be opened and reclosed for customer examination, if desired. Former tray with velvet insert was virtually useless as a gift package.



Short cuts with plastics

New presentation package, making use of a formed tray and sleeve, adds gift appeal to Gemex watchbands and reduces assembly steps from seven to three

A smart new transparent plastics package designed to merchandise Gemex watchbands as gifts has been developed with such substantial economies that it deserves careful study by packagers of jewelry, personal products, precision instruments and other items involving difficult assembly problems.

Use of a new recessed, flocked, thermoformed polystyrene tray with extruded cellulose acetate butyrate sleeve is said to lower costs from 2 to 3 cents per unit below former Gemex packaging, due mainly to a 67% saving in assembly operations.

Previously, Gemex watchbands were mounted on metal or plastic frames equipped with velvet inserts to which the watchbands had to be laboriously attached with metal hooks by hand. These, in turn, were slipped into transparent envelopes and fitted into display trays for jewelers' counters. They presented a complicated assembly set-up in the factory and were virtually useless as a gift package.

The new package provides a completely closed presentation unit requiring no additional boxing. Contents are visible for display in existing jewelers' racks, yet the sleeve may be slipped on and off.

Assembly operations are reduced from seven to three simplified steps.

To complete the old package it was necessary to (1) stamp and arrange guarantee cards with lot number and style, (2) attach hooks to velvet inserts, (3) put price tags on the bands, (4) fit velvet inserts into frame, (5) attach watchband to hooks on inserts, (6) put extra links in a tiny cellophane envelope concealed in the package and (7) place the final assembly in a polyethylene envelope.

With the new plastics package it is necessary only to (1) stamp and arrange guarantee cards, (2) place bands and links in the recesses of the thermoformed flocked platform and (3) slip components into the trapezoidal-shaped transparent sleeve.

Trade name is hot stamped in gold on the transparent sleeve. Price is printed on the pressure-sensitive foil label placed on the sleeve by the supplier before shipment to Gemex.

SUPPLIES AND SERVICES: *Development work and extruded sleeves by Extruded Plastics, Inc., Norwalk, Conn., using Eastman Chemical Products' butyrate. Hot stamping and labeling operation, also forming of polystyrene platform, by Valley National Corp., Milldale, Conn., using flocked material by Gilman Bros. Co., Gilman, Conn., and Nashua Corp., Nashua, N. H. Pressure-sensitive labels by The Foxon Co., 227-235 W. Park St., Providence, R. I. Design consultant, Richard Arbib Co., 80 W. 40 St., New York.*

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If you're looking for the kind of security you can count on—from leakage, tampering and pilferage . . .

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Tri-Sure S/A Indústria e Comércio, Sao Bernardo Do Campo, Estado de Sao Paulo, Brazil
American Flange & Manufacturing Co. Inc., Villawood, N. S. W., Australia
Compañia Mexicana Tri-Sure S. A., Naucalpan, E. de Mexico, Mexico
B. Van Leer N. V., Stadhouderskade 6, Amsterdam, Holland
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CLOSURES

Lining and coating of plastics

Extensive research in this field by a pioneer user company outlines the procedures for adapting barrier properties of polyethylene and other containers to a product By Ralph H. Thomas*

During World War II compulsive requirements and demands were made for plastic materials for packaging of all types of products. This fairly new material medium was, within its own rights, progressing rapidly as a packaging standard even prior to this time, but was exploded into a *must* by the shortage of metals at this critical time. The military needs had broadened out into all fields, especially new liquid, paste, powder and cream-type packaging, as are predominantly used in the food, drug, cosmetic and toiletry product fields.

Bristol-Myers Co., being one of the major producers in this industry, was affected and had to seek substitute materials for packaging of their toiletry items during this period both for civilian and for military use.

Our investigation led us into the field of plastics —both supported and unsupported films—and also the possibilities of plastic-coated or plastic-laminated paper. The complete method of producing or fabricating a tube with any combination being tested was within reason of engineering possibilities, but nothing was finalized at the start of the investigation. However, production machinery design followed closely upon test developments.

The results of many tests and investigations indicated that we had many problems to overcome, such as essential-oil retention, product wicking on seamed ends, difficulties in decoration, production handling and filling problems, fabrication speeds and quality control. These problems, plus the cost factors involved, created the need for other approaches to the problem.

Our next investigation led us to seek a plastic material which could be molded into a finished collapsible tube, formed, readily decorated, handled easily on the production line, be heat sealable, have essential-oil barrier properties and, of course, be consumer acceptable. Initially, we tried to accomplish retention of an essential-oil base product with the plastic material and its own inherent physical properties. It was soon determined that some type of treatment would be necessary to improve the barrier properties, especially the essential-oil barrier properties, with plastics such as polyethylene.

Based on much background in lining and coating work which we had conducted over the years with

*Director, Packaging Research Dept., Bristol-Myers Products Div., Bristol-Myers Co., Hillside, N. J. From a paper delivered before the 20th Annual Forum of the Packaging Institute, Chicago, October, 1958.

Award-winning research

Thomas

At the Packaging Institute's Awards Dinner in October, the Corporate Award, for highest honors in corporate packaging achievement, was given to the Bristol-Myers Co., primarily for its work on coatings and liners for plastic containers, which is reported here. Mr. Thomas, author of this article, acknowledged the award in behalf of his company.

Figure 1. Result of research in barrier linings for polyethylene is the Ipana Plus squeeze bottle, marketed a year ago—the first polyethylene container successfully to contain a dentifrice. This polyethylene bottle is internally lined with a combination of various resinous groups.

Figure 2. Internal lining of molded polystyrene jar designed to hold Mum cream deodorant. This was experimental. It is lined with various combinations of epoxy resins and vinylidene groups.

regard to collapsible metal tubes, we believed that a coating or lining could be commercially applied to a plastic tube using existing internal-tube-coating production equipment. Reviews were initiated on many coatings and linings already familiar from our metal studies, and a basic field of coating research was instigated.

After months and years of research, learning our shortcomings and realizing what is involved in applying a coating to plastic, we now feel that many plastic materials may be lined or coated successfully to protect the product sufficiently and to maintain a shelf life of approximately two years or more, dependent upon the specific requirements of the product.

In most cases, dependent upon the objectives and the shape and style of the container, internal coatings have proved to be more effective than external coatings. The internal coating does not have to withstand surface abrasions as does the external coating. External coatings do, however, have some advantages in that processing requirements are easier, finishes are more brilliant and lustrous, and external surface contaminations are reduced.

Research procedure

Research undertaking of a project of this type requires careful study of the proposed lining or coating in relation to the plastic container and the setting down of objectives. This must be followed with a thorough study of the plastic—understanding its temperature properties, physical make-up, economics, etc.

With this background, it is absolutely necessary to know the physical properties and behavior of the product to be packaged.

The lining or coating to be used probably will be of a synthetic-resin type. The two types of reactions of primary importance in connection with the synthesis of resins are *polymerization* and *condensation*. Polymerization may be divided into (a) additive or homopolymerization (additive combination of the monomer); (b) copolymerization (combination of two or more different monomers, each capable of polymerizing alone), and (c) heteropolymerization (an additive copolymerization involving one substance which is unsaturated, but which does not readily polymerize alone). In condensation reactions, as contrasted with simple polymerizations, there is a loss of such substances as alcohol, water, etc. In such reactions, consequently, the final product is not an exact multiple of the original reacting agents.

Figure 3 illustrates the difference between dispersion and aggregation. This situation of aggregation may prevail if the surface chemistry of pigment and vehicle is not complementary. Careful selection of solvent becomes very important in order to control the working consistency of the coating or lining.

Toxicological studies

Toxicological requirements must be established on the particular linings or coatings being considered for study. Those requirements, of course, will be far more critical with a product that possibly will enter the human body in one form or another. These data should be established on both cured and non-cured lining materials.

Table I: Properties of a plasticizer

An ideal plasticizer should be:

1. Odorless
2. Colorless
3. Tasteless
4. Non-toxic
5. Non-hygroscopic
6. Non-flammable
7. Stable under heat and cold
8. Non-yellowing
9. Compatible
10. Inert to reactive pigments

It should have:

1. High flash point
2. High boiling range
3. Low vapor pressure
4. High solvent strength
5. Low solvent retention
6. Dispersing power
7. Wettability for pigments

Care should be taken if surface-active agents will be used in the lining formula because of possible toxicity complications.

In using wetting agents of the synthetic organic-chemicals group, more specific toxicological understandings are required than with the use of soap detergents. These new surface-active agents are similar to soaps in that they are polar and contain a hydrocarbon portion of the molecule. Depending on the length of the molecule, the surface-active agents are more or less hydrophobic. The solubilizing group, on the other hand, is hydrophilic. The combination of these two groups gives a molecule which may be active at its interfaces by effecting reduction of surface tension.

In selecting the proper plasticizer, care again should be taken in considering the migrational possibilities and their toxicological effect to the product contained in the package.

Table I lists the properties of an ideal plasticizer for these purposes. Plasticizers will add such qualities to the lining or coating as elasticity, flow, gloss, clarity, adhesion, resistance to water and solvents, and reduction of burning rate.

Plastic surface preparation

The success of any lining or coating will depend upon its uniform adherence to the plastic walls. In applying a coating to any surface, some of the essential requirements that must be considered are the old standbys of a clean, dry and sometimes temperature-controlled finish.

On plastic surfaces it has been found that a smooth, fine surface is not always the best finish for obtaining adhesion of a coating or lining. The shape and design of the container are very important factors in allowing for commercial treatment of the container with a high-speed application process.

Various treatment methods have been used on polyethylene with some success. The success of a particular treatment will depend upon the shape of

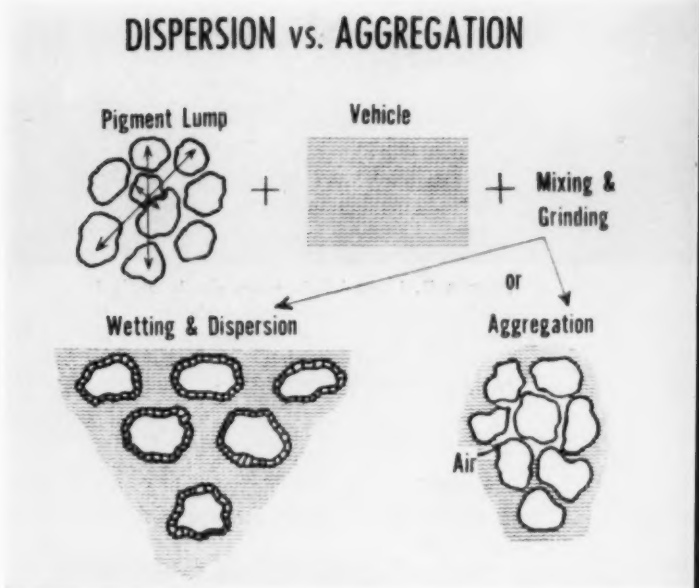


Figure 3. Aggregation in a lining or coating may prevail if surface chemistry of pigment and vehicle are not complementary. Careful selection of solvent is important to control the working consistency of a lining or a coating.

PHOTO GARDNER LABORATORY

Figure 4. Interchemical adhesion meter, designed to measure stripping force in dynes required to remove a paint film from test panel, may be used to test adherence of plastic coatings.

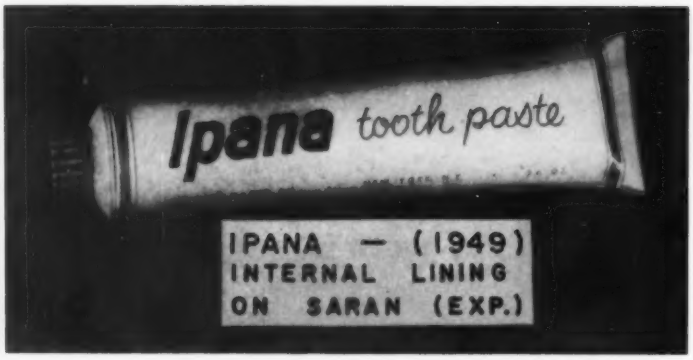


Figure 5. Internal linings may also be applied to plastic tubes. This toothpaste tube, which is made of saran, was experimentally produced in 1949. It is lined with various combinations of epoxy resins and the vinyl groups.

the container, the wall thickness, the free accessible area, the type of plastic, the type of lining and the cure cycle.

Treatment methods which have been used are:

1. Natural gas flaming,
2. Commercial gas flaming,
3. Acid washes and baths,
4. Sulfur gases,
5. High-voltage bombing,
6. Mechanical sand blasting and etching,
7. Surface high-temperature penetration,
8. Steam vapor.

The finished surface, after being treated, should have completely uniform distribution and coverage in order to allow the coating or lining to follow the same pattern.

Good adhesion will depend on the surface being treated to allow for coating or lining penetration. Care should be taken in surface treating not to affect the plastic permeability by giving too deep a surface treatment.

Application

The selected coating or lining material now should be studied for its adaptation to good adherence to a properly treated surface. Tests will be required to determine a suitable combination to fulfill the objectives. Care should be taken in the process of applying a coating so that the proper plasticizer and other physical properties of the coating material will lend the correct liquid vehicle for application and temperature curing.

The method used in applying the coating will be guided by the coating requirements, shape and design of the container, equipment limitations, temperature and curing requirements.

Coating methods which have been used include:

1. Internal spraying,
2. Internal flushing,
3. Fill and drain,
4. Dipping,
5. Partial fill and swirl,
6. Vacuum,
7. Modified metalizing,
8. Vapor saturation.

Presuming that the lining is effective, based on previous tests, the barrier properties will be proportional to the uniformity of application and adhesion. An effective lining could be easily misjudged as having poor barrier properties because of a poor application.

The coated surface should have the following properties after being cured:

1. Uniform distribution of the coating,
2. As close to 100% area coverage as possible,
3. Uniform thickness of the coating,
4. No surplus well areas of coating,
5. Minimum pinholes or "orange-skin" effect,
6. No void areas,
7. No objectionable odor,
8. No objectionable color,
9. Flexibility,
10. Minimum brittleness.

Quality control

A method which is completely practical from a commercial standpoint and completely satisfactory for controlling a good lining or coating will be difficult to establish. The selection of the proper method will depend a great deal upon the size and shape of the container as well as the free accessible area.

Methods which have been used for controlling lined or coated containers are:

1. Machines which scrape off coating section and determine material amount per given area,
2. Ultra-violet penetration,
3. Acceleration solvent-penetration tests,
4. Total weight of liner per container pro-rated to coating thickness per given area,
5. Spectrographic analysis,
6. Measurement of light reflection,
7. Electronic resistance measurements,
8. Microscopic measurements.

Statistical methods of quality control should be utilized to the utmost, especially where a large coverage is desired. With good statistical methods, large coverage of finished ware can be controlled with very little individual inspection performance required.

In choosing a control method, consideration should be given to the color of the cured coating. Various conditions such as temperature, time of cure, thickness of coating, distribution of coating and type of plasticizer can affect the color standard, but do not necessarily [*Continued on page 178*]

WVTR of oriented polystyrene

A study of water-vapor transmission rates over a wide range of thicknesses points to greater efficiency of film and sheet in thinner gauges

By Howard A. Scopp and Albert Adakonis†*

A clear understanding of the water-vapor transmission rates of a packaging film is of utmost importance to those concerned with producing, selling and using the film. This information has heretofore not been fully developed in the case of styrene film because the material is relatively new in the field. It is the purpose of this paper to present data on the water-vapor rates of oriented polystyrene films and sheeting over the full range of thicknesses from 1 to 20 mils.

Data on thickness over 1 mil are presented here for the first time. It is interesting to note, from Figure 1, that the rate for 1 mil agrees approximately with that published previously,[1] but that in the higher gauges the linear effect normally associated with permeability is not present. As will be seen, the curve tends to flatten in the higher gauges, a fact that should be of considerable interest to fabricators, particularly in the areas of injection molding and thermoforming, where the products are normally made from materials in the higher thicknesses.

Equipment

A General Foods Humidity Cabinet, Model No. 24, manufactured by Baugher & Hirst, was used for these tests. The cabinet was maintained at 90 to 95% relative humidity and 100 deg. F.

The cups used for the samples were Vapometer cups, manufactured by the Thwing-Albert Instrument Co. They accommodate a 3-in.-diameter specimen of film, with an exposed surface of 2.5-in. diameter.

Procedure

The test prodedure used was similar to ASTM E96, Method E. A specimen of the film to be tested was examined visually for flaws such as pinholes and creases, and then a perfect section 3 in. in diameter was prepared. Fifty grams of dry calcium chloride were placed in the Vapometer test cup (which had been scrupulously cleaned). The calcium chloride was spread evenly over the bottom surface of the cup and the film specimen placed over the lip of the cup. The film was sealed to the rim of the cup by means of a rubber gasket and ring which was fastened by six set screws.

Table I: Water-vapor transmission of various gauges of Polyflex 100
(Gms./100 in.²/24 hrs.)

	Gauge, mils					
	1	*3*	*5*	*10*	*15*	*20*
a.	4.54	2.33	1.37	0.72	0.54	0.52
b.	4.33	2.26	1.37	0.78	0.53	0.44
c.	4.31	2.32	1.25	0.61	0.52	0.47
Mean	4.39	2.30	1.33	0.70	0.53	0.48

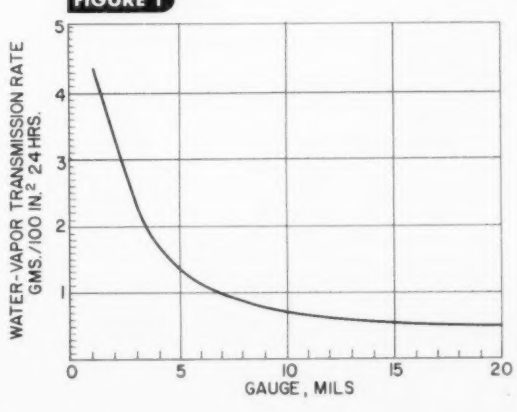
The cups were conditioned overnight in the humidity cabinet, then removed and placed in a desiccator containing calcium chloride for four hours. They were then weighed on an analytical balance, put back in the humidity cabinet for 66 hrs., removed, placed in the desiccator again for 4 hrs. and re-weighed. All samples were tested in triplicate.

The results were computed in terms of grams per 100 sq. in. of film per 24 hours.

Test results

Using the above-mentioned technique, water-vapor rates were deter- [*Continued on page 172*]

FIGURE 1



*Manager of Polymer Chemistry and †Research Chemist, Plax Corp., Hartford, Conn.

[1]See "Polystyrene Film," by F. C. Dulmage, MODERN PACKAGING, Sept., 1958, p. 154.

Q Questions & A Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Paper-foil laminating agents

Q: *We have been using special resin-wax mixtures to laminate paper to aluminum foil. One of our customers requires a material with greater heat resistance and so we have been trying to laminate the materials with latex-type adhesives. The results show variable ply adhesion and some discoloration of the foil. How can we improve the quality of this type of lamination?*

A: Your laminating equipment is apparently well designed and operated to produce satisfactory hot-melt laminations. However, latex adhesives and water-based adhesives require basically different equipment and operating conditions.

The coating unit should apply a uniform film of the wet adhesive in the minimum amount necessary for a strong bond. The minimum amount of adhesive will depend somewhat on the type of paper used, but primarily on the solids content and the type of the latex. A laminating unit for water-based or latex adhesives must be equipped with a drying tunnel or system to remove the excess water and to cure or set the remaining solids. If the laminated web is wound up without removal of the excess water, the adhesive bond will be weak and, on standing, the foil can be discolored and corroded.

Another problem can be the wetting of the foil by the latex. If the foil has an oily surface, the latex will not spread or bond properly and a weak or variable adhesion of the plies will result. There is also a wide difference between various types of latices insofar as their ability to wet and adhere to aluminum foil is concerned.

Latex adhesives are excellent laminating agents for foil-paper structures, particularly where there are requirements for durability and heat resistance. It is suggested that your engineers discuss your problems with the suppliers of your foil and latex. Such a cooperative program, plus machine changes and further experience, should result in solving your problems.

Stereo-specific catalysts

Q: *The term stereo-specific catalyst is used in connection with certain processes for making plastics. What is the purpose of these catalysts and are they important in the production of new and better plastics resins?*

A: Many processes for making synthetic polymers and other complex chemicals use a catalyst of some kind. The purpose of a catalyst is to cause the reacting materials to combine in a specific way to form the desired end product. The catalyst induces and controls the reaction, but is not changed or consumed.

Catalysts are widely used in many industrial processes and their use results in the efficient production of many chemicals.

Recently there have been announcements of processes for making polyethylene and other polyolefins at low pressures and temperatures with different catalyst systems. In describing some of these newer processes for polyolefin production, the term stereo-specific has been used to describe the catalyst. This type of catalyst is one that makes polymers of a controlled and orderly molecular structure. The stereo-specific catalysts cause the monomer to combine in a specific and orderly manner to make the desired polymer. These catalysts are of particular value in making polymers from the larger, unsymmetrical monomers such as propylene.

The development of stereo-specific catalysts is a great technological advance in polymer chemistry. These catalysts will be the means by which newer polymers will be tailor-made for specific end uses.

Impact-resistant coated paper

Q: *How can we increase the impact resistance of a polyethylene-coated paper? We require a material that has a high resistance to shock. Paper coated with a resin such as polyethylene looks promising, but the paper breaks too easily.*

A: Polyethylene resins of the lower-density range have low tensile strength and very high values of elongation. Depending on the conditions of testing, the elongation values may be as high as 400%. This means that when this film absorbs the energy of an impact, it stretches and absorbs the energy. If the total amount of energy is not excessive, the force developed is not enough to break the film. However, paper has higher values for tensile strength and very low values for elongation. A typical kraft paper of normal moisture content could have an elongation of only 2 or 3%.

When polyethylene resin is coated on paper and the combined material is subjected to shock loading or impact, the paper must absorb most of the energy. Since paper cannot stretch or distort significantly, the force developed will cause the paper to break.

The answer to this problem is to use a creped or similar type of paper having higher values of stretch or elongation. Such paper must have a creping or stretch treatment to give improved elongation values in two directions—that is, both along and across the web.

The use of a type of polyethylene, or other resin, having higher tensile values and lower elongation will also be helpful. A more-stretchable paper and a less-stretchable plastic coating will result in a material that will have higher impact resistance because both the resin and the paper will share in the energy absorption. Also, the paper will not break as readily, since the forces acting on it will not be so great.

The proper choice of paper type and basis weight, together with a well-adhered coating of a strong resin, will give a material having a high impact resistance.

it's clear to see . . .

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a happy new year

Manufacturers of Quality Glass Containers

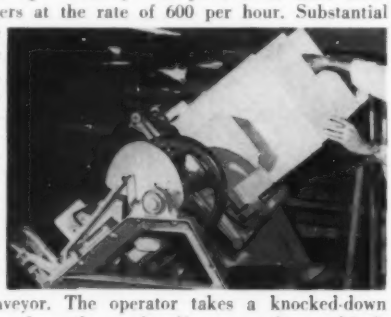
METRO GLASS

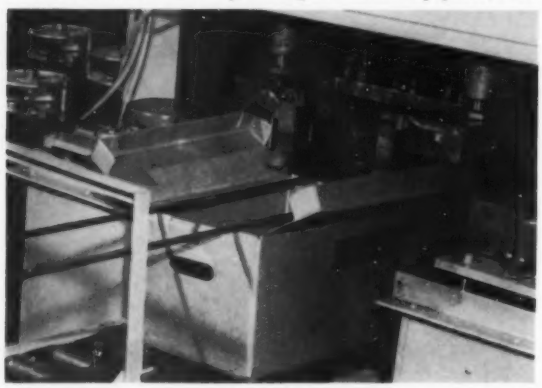
METRO GLASS COMPANY, Incorporated
General offices: Jersey City 3, New Jersey

Equipment and materials

Semi-automatic set-up machine

Gaylord has developed a semi-automatic machine that reportedly can set up "Whalley" one-piece solid fibre beer-shipping containers at the rate of 600 per hour. Substantial cost savings are achieved by the new machine, which requires only one operator, the company says. The Gaylord-Whalley set-up machine is composed of two separate units, connected by a conventional roller conveyor. The operator takes a knocked-down shipping container from the stack adjacent to the machine's bottom-sealer unit. He places it on a mandrel which rotates and carries the bottom flaps over glue-rollers (top photo). Ac-





cording to the company, the adhesive used is a specially developed resinous formula which is odor free and resistant to bacterial growth. The glue pot at the sealer unit contains a thermostatically controlled heating unit that keeps the quick-set adhesive constantly at the proper bonding temperature, for fast resumption of set-up operations. After the shipper's bottom has been sealed, it travels along the conveyor to the lid-stitching unit (bottom photo). Here the two-part, locking lid is formed, double stitched and opened, and the shipper is ready to be loaded. The supplier says the entire setting-up procedure for one box takes only five seconds. Another cost-saving benefit cited by the supplier is that the one-piece beer carrier has exceptional strength, therefore can be used many times without replacement. *Gaylord Container Corp., Div. Crown Zellerbach Corp., 111 N. Fourth St., St. Louis 2.*

Line of thermoplastic films and sheets

Now available from Ludlow Papers is a line of biaxially oriented thermoplastic packaging films and flexible sheeting made under a modified extrusion process called Flex-L. (See MODERN PACKAGING, Sept., 1958, p. 160.) Materials in the company's line are: "Orthoplene," a conventional-density polyethylene film; "Metaplene," a medium-density polyethylene film; "Paraplene," a high-density polyethylene film; "Proplene," a polypropylene film; "Caplene," a nylon film; "Orthofoam," a conventional-density polyethylene foam, and "Metafoam," a medium-density polyethylene foam. The latter two thermoplastic sheet materials are translucent and are available in thicknesses of from 16 to 35 mils. The other five are sparkling-clear packaging films available in various thicknesses down to ½ mil. Samples and detailed property charts for each of the materials are included in a brochure, "Protection For Your Product," obtainable from the supplier. *Ludlow Papers, Inc., Plastics Div., Needham Heights, Mass.*

Machines for blow molding containers

German-made machines for blow molding containers and other hollow objects from thermoplastic resins now are available in the U. S. The machines, reported to be fully protected by U. S. patents and patent applications, are manufactured by Kautex-Werk Reinhold Hagen, Hangelar, (Bonn), W. Germany. Distributor in the U. S. is Kautex U. S. Sales Co., which also is trustee of the patent structure relating to the machine, including that of Owens-Illinois. Under this arrangement, Kautex U. S. will sell the machines and will license users for the blow-molding process on a royalty basis—on a descending scale according to volume of production. According to the distributor, the Kautex machine is versatile, economical and easy to operate. It differs from other molding machines because it uses the rising-platen concept. Single-cavity and multiple-cavity molding are said to be possible with the machine, which can blow mold all extrudable thermoplastic resins, the supplier says. Molds can be changed in about one hour. The unit reportedly can turn out 10,000 ten-gram (about ⅓-oz.) parts per hour. *Kautex U. S. Sales Co., Inc., 38-01 23 Ave., Long Island City 5, N. Y.*

Semi-automatic box wrapper

One operator controls the entire box-wrapping operation with Staude's new Alpha Adapto-Feed. Speeds of up to 50 wrapped boxes per minute can be attained, according to the company. The new unit incorporates an improved in-feed with synchronized gripper and nozzle control that are reported to assure positive feeding action from conveyor to wrapper. The machine can handle wrappers ranging in size from 3¼ by 1⅜ by ⅜ in. to 16½ by 14½ by 4½ in., the supplier says. *E. G. Staude Mfg. Co., 2675 University Ave., St. Paul 14.*

Liquid-tight frozen-food carton

A liquid-tight paperboard carton for frozen foods, which reportedly is adaptable to high-speed mechanized filling and sealing operations, has been developed by Fibreboard Paper Products. The new consumer package, which has an applied liner of plastic film, already is being used by a Western frozen-food packer as a container for strawberries in juice.

The new carton is formed, filled and sealed on the "Fibrematic" machine supplied by the company. According to the company, the carton makes possible faster packaging speeds, thereby reducing costs. Other cited cost-saving benefits of the "Fibrematic" carton are its lighter weight and the fact that it can be shipped flat. From the consumer point of view, the supplier says, the carton offers more convenient opening. Requiring no knife or other cutting tool, it opens easily by tearing the paperboard and liner. *Fibreboard Paper Products Corp., 475 Brannan St., San Francisco 19.*

Supplemental hot-stamping head

A supplemental hot-stamping head, designed for use with its Model 250H Acroleaf press, is being offered by Acromark. The new attachment provides a stamping area of up to 12 in. long by 2½ in. wide. A scrap roll-leaf rewind keeps the work area clear and eliminates down time formerly required to chop used foil, the supplier reports. *The Acromark Co., Elizabeth, N.J.*

String-opening, four-ply fibre can

American Can has introduced a string-opening metal-end fibre can for biscuit dough that is claimed to eliminate entirely

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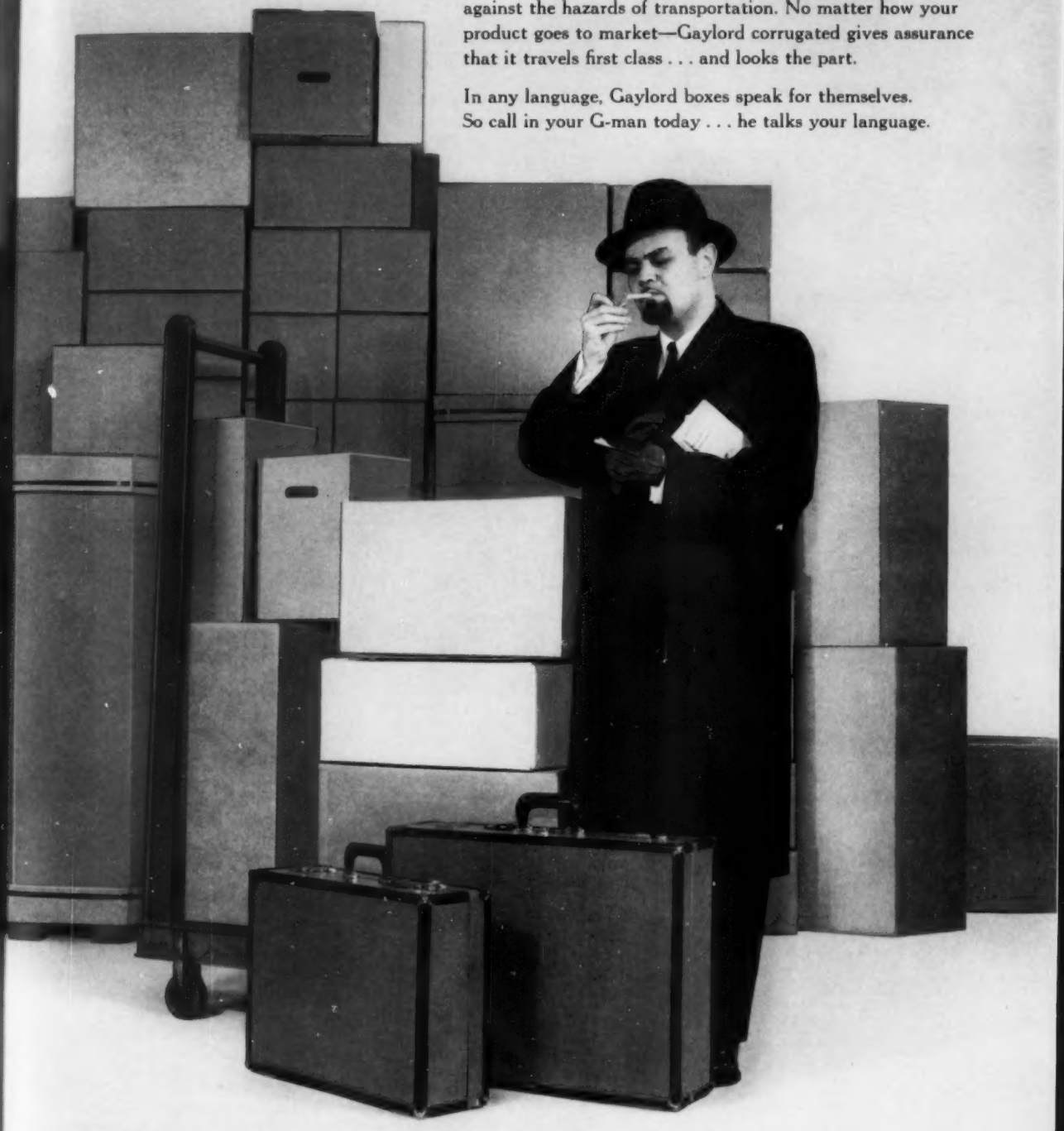

GAYLORD
CONTAINER CORPORATION

Gaylord Boxes

HEADQUARTERS, ST. LOUIS
PLANTS COAST TO COAST

DIVISION OF **Crown Zellerbach Corporation**

Equipment and materials

product damage when opening the container. The spiral-wound can, whose body is constructed of two plies of paperboard plus an inner and outer lining of aluminum foil, also represents another example of how greater protection is being built into fibre cans to widen their application in packaging. (See "Fibre Can for a Problem Product," MODERN PACKAGING, Nov., 1958, p. 99.) A tear string is incorporated in the four-ply body construction. When pulled spirally the length of the container, it cuts cleanly through the wall. The can then is opened by grasping it at both ends and twisting the ends in opposite directions. The outer aluminum-foil lining can be printed with label copy, the company points out, eliminating the need for a separate wrap-around label. *American Can Co., 100 Park Ave., New York 17.*

New liquid-filler valve

A new liquid-filler valve, claimed to pressure fill to an exact pre-set limit without the use of a seal, is offered by Karl Kiefer Machine Co. The company reports that it can be used with any type of container, including flexible plastic bottles that might be deformed by sealing compression. Split-second cut-off of product flow is said to be achieved by a vacuum liquid level control when the liquid reaches a predetermined level. *The Karl Kiefer Machine Co., 924 Martin St., Cincinnati 2.*

Two casein products offered

Two casein products for adhesive and paper manufacturing are available from Borden Chemical. One is a water-soluble casein, Protovac PV-424. According to the supplier, it can be used effectively in greaseproof coatings or as an adhesive, and can be prepared at room temperature. Other cited advantages are low foaming, low alkali requirement and high adhesive strength. The other material, Borden's Special 30-Mesh Argentine Casein, is reported to be particularly suitable for paper coating. It, too, is claimed to have a low alkali requirement. *Borden Chemical Co., Casein Dept., 350 Madison Ave., New York 17.*

Pail filler, labeler, crimper

MRM reports that its new heavy-duty pail-filling machine automatically fills, labels and crimp closes 5-gal. pails at speeds of eight to 16 containers per minute. Products that can be filled on the straight-line unit include such viscous or semi-

viscous materials as adhesives, oils and paints. As pails enter the filling area (far left) of the 20-ft.-long machine, a series of air-operated nozzles is activated, with each nozzle depositing a partial quantity of product. Safety controls prevent spillage, overfill or filling action when no pail is positioned under the nozzles, the company says. After the filling cycle, pails move along a chain conveyor to the labeling station. Here labels are applied and the pails are wiped clean. The pails then travel to the crimping station (right), where a synchronized crimping head automatically clamps closures securely to the open-top containers. *MRM Co., Inc., 191 Berry St., Brooklyn 11.*

Polystyrene apothecary vial

A 1-oz. capacity polystyrene apothecary vial has been added to Celluplastic's line of "Clearsite" plastic specialty containers. The wide-mouthed, shouldered container, designed for packaging pharmaceuticals and other products, tapers slightly toward its base for more graceful appearance. It features a polyethylene plug closure, in a selection of colors, that can be imprinted with company name or trademark. The vial itself is available in clear or opaque style and can be color printed. The company reports that four other sizes (½, 2, 3 and 4 oz.) will be added. *Celluplastic Corp., 50 Ave. L, Newark 5, N.J.*

Corrugated shipper with 'inner tube'

Greatly reduced outward strain and increased stacking strength are the advantages claimed by Continental Can for its new "Cargo Carrier" corrugated shipping container for bulk products. The shipper features an inner corrugated tube with bellows corners at the major stress points (as shown in the photo-diagram). The corners lock when the bellows scores are broken, creating two separate container compartments, the supplier says. When being filled, the inner tube is fitted into a corrugated tray which serves as the package's primary bottom closure. After the tube has been loaded, it is covered by an outer case which is capped by another tray and closed at the bottom by a series of four flaps. The company points out that the unfilled container is shipped flat. *Continental Can Co., Fibre Drum & Corrugated Box Div., 530 Fifth Ave., New York 36.*

Light-duty roll winder

Black-Clawson's Dilts Div. is offering its new Model 10 light-duty winder with two-arm rotating reel. It can be used with any type of thermoplastic film, cellophane, foil or other lightweight packaging material, the supplier says. The unit can be operated under tension control and accommodates rolls of up to 18 in. in diameter, according to the manufacturer. *Black-Clawson Co., Dilts Div., Fulton, N.Y.*

Super-thick creped cushioning material

A creped-wadding cushioning material, claimed to combine greater thickness with economy, has been developed by Kimberly-Clark. Called Super Crepe Kimpak, it is designed for such packaging applications as blocking and bracing, flotation, absorbent packing and surface-protection packaging for such products as radios and TV sets, electrical appliances, glassware and ceramics, pharmaceuticals, chemicals and photographic instruments. The material is offered in roll or sheet form, in thicknesses ranging from 0.04 up to 0.50 in. A complete selection of backing papers also is available, the company reports. According to the supplier, the material incorporates the characteristics of conformability, easy handling, resilience, resistance to abrasion, uniformity and high absorbency. It is odorless, dust free, soft and non-corrosive. *Kimberly-Clark Corp., Neenah, Wis.*

Dispenser for tear-strip gummed tape

Nashua Corp.'s National Electric Model 98 Vuematic CN is a tape-dispensing machine that activates, laminates and dispenses kraft or reinforced gummed carton-sealing tapes with a center tear strip and starting tab. In operation, the unit laminates the tear strip to the center of the tape, simultaneously providing a starting point on one end of the desired length of tape. This tab, the company points out, offers quick visual identification of where to pull the tape. (Use of the tear-strip-equipped tape makes cartons easier to open and eliminates

appetite appeal

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in Hormel's

new lard carton by

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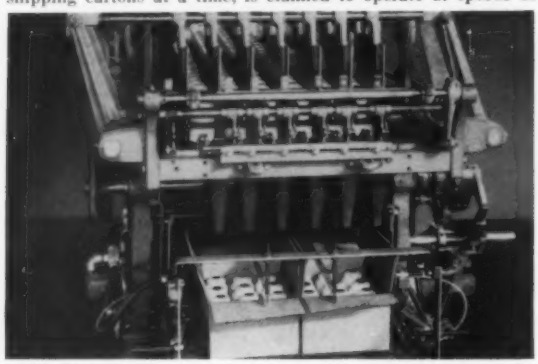
This insert lithographed by Milprint, Inc.

Equipment and materials

container damage so the cartons can be re-used, the supplier says.) The tape dispenser accommodates rolls of from 1- to 4-in. diameter and permits selection of tape lengths from 6 to 70 in. *Nashua Corp., Nashua, N.H.*

Gentle case loading of aerosol cans

An automatic machine for gentle but rapid case loading of empty aerosol containers has been developed by Emhart. The company's new Standard-Knapp packer, which can load two shipping cartons at a time, is claimed to operate at speeds of



up to 240 metal cans per minute. The cans are fed from six parallel channels at the top of the machine and are lowered gently into the shipping containers. This type of handling, the supplier points out, eliminates the chipping or scratching of can surfaces that may result when the cans are rolled into cartons. The unit accommodates 7- or 12-oz. containers and reportedly can be changed over in about 15 min. to handle either size. *Emhart Mfg. Co., Standard-Knapp Div., Portland, Conn.*

Expanded line of saran unit dispensers

Unette Corp. has expanded its line of Saran Unette single-use dispensers for one-shot packaging of liquid products. Made of saran tubing extruded by The National Plastic Products Co., the dispensers are now available in sizes ranging from 0.3 to 10.0 cc., with three basic closures: solid seal, tear tab and rupturable seal. According to the supplier, the unit packages are particularly suitable for packaging cosmetics, toiletries, pharmaceuticals, proprietary drugs, oils and other products because of the material's low water-vapor transmission, chemical inertness and excellent retention of products containing essential oils. *The Unette Corp., Livingston, N.J.*

Quick-change milk filler

Filling speeds of 120 containers per minute, with low foaming, are claimed by American Can for its new Model 300-15A 15-valve milk-filling machine. The company reports that the machine can be changed over in minutes to accommodate half-pint, third-quart, pint or quart-size paper containers without the operator touching any milk-contact parts. Another reported advantage of the machine is that all filling-cycle parts are completely enclosed for sanitation. Like the company's recently introduced 38-valve milk filler (see MODERN PACKAGING, June, 1958, p. 140), filling valves on the new machine are made of nylon and rubber as well as stainless steel. *American Can Co., 100 Park Ave., New York 17.*

Low-cost automatic wrapping machine

Economy in the packaging of regular- or irregularly shaped small industrial parts, hardware and other products is claimed by Rimbach Mfg. for its new Rimco automatic wrapping machine. The unit wraps parts between two latex-coated, cohesive sheets of paper, fed from rolls. It operates at speeds of 10 to 100 packages per minute and can accommodate pieces up to 2 in. in height, according to the company. The unit handles paper rolls ranging in width from 3 to 12 in. and can form packages of from 3 to 10 in. long. Extensions are available to adjust to larger packages. According to the supplier, the simple mechanism of the wrapper and the low cost of the packaging material contribute to substantial economies. Further details are available on request to the manufacturer. *Rimbach Mfg. Co., Gardena, Calif.*

One-man bagging unit

Richardson's GA-17 gross-bagging scale features an eye-level visual balance indicator that enables the operator to eliminate weighing errors on the spot. Designed as a one-man bagging unit for small plants, the feeder-equipped machine accommodates a wide variety of non-free- and free-flowing dry materials. It can accept open-mouth textile and multiwall paper bags ranging from 10- to 140-lb. capacity. Complete accuracy and economy of operation are claimed for the unit by its supplier. *Richardson Scale Co., Clifton, N.J.*

Austrian producer of polypropylene

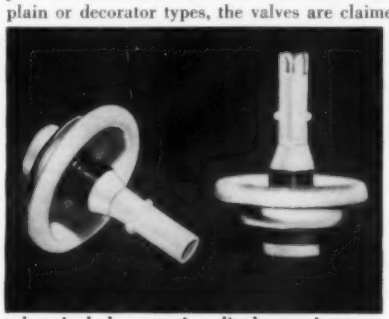
A new company has been formed in Austria for the production of polypropylene. Called Danubia Petrochemie A. G., it has been set up jointly by Montecatini Soc. Gen. of Milan and an Austrian chemical concern, Stickstoffwerke A. G. of Linz. The new company will market polypropylene in Austria under the trade name "Daplen." A plant to be built near Vienna will have an annual production capacity of 11,000,000 lbs., according to Montecatini. *Danubia Petrochemie A. G., Linz, Austria.*

Multi-purpose strip-packaging machine

A multi-purpose, table-model strip-packaging machine designed to handle small or medium-sized products is offered by Chemical & Pharmaceutical Industry Co. The Multiple Scope machine is claimed to wrap an average of 6,000 pieces per hour in automatic or semi-automatic operation. It uses heat-sealing jaws in the packaging operation and reportedly can accommodate any heat-sealable material, such as cellophane and coated or laminated aluminum foil. The completed packages are produced in a continuous strip, with perforations between units. Low cost is another cited advantage of the company's new packaging machine. *Chemical & Pharmaceutical Industry Co., 90 W. Broadway, New York 7.*

Improved aerosol tilt valves

New non-metallic aerosol tilt valves for food and non-food products are available from Aerated Container. Offered in plain or decorator types, the valves are claimed to provide perfect dispensing for such foods as toppings, syrups, salad dressings, spreads, catsup and mustard, and for such non-foods as shaving cream, shampoo, hand lotion, waxes and polishes. Cited features of the new valves include: a spring diaphragm incorporating a limit lock to guarantee uniform preloading, quick-acting shut-off and a specially designed valve seat which assures a leakproof seal and also provides easily controlled product flow for upside-down dispensing. Tamperproof, sanitary closures in color also are available, the supplier reports. *Aerated Container Corp., 39 S. La Salle St., Chicago 3.*



Flexible fastener for film bags

A flexible polyethylene clip fastener, designed to offer easy opening and secure reclosure for open-top film bags, is available from George P. Wood. Marketed under the trade name of Schumm, the fastener is secured around the gathered-in top of the bag. It protects the contents and will not spring open

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Equipment and materials

during shipping or other handling, the supplier claims. The company says also that the item is low in cost and can be reused indefinitely without breaking. It is available in four sizes and a variety of colors. On bulk orders of 50,000 or more fasteners, the supplier will imprint a company trademark or other message on the polyethylene clip. *George P. Wood, 158 Jackson St., Passaic, N.J.*

For feeding damp materials

Syntron's heavy-duty and extra-heavy-duty electromagnetic vibrating feeders now are available with electrically heated trough liner plates that are reported to facilitate the feeding of bulk materials with high moisture content. Sinuated heating-element wires in the plates eliminate the build-up of damp or wet materials in the feeder troughs. This, the supplier claims, speeds up the feeding operation and eliminates down time for trough cleaning. *Syntron Co., Homer City, Pa.*

Two new gummed box tapes

Reported to have excellent handling characteristics in high-speed machine operations are Mid-States' two new non-asphaltic box tapes. Marketed under the "Corbond" (regular weight) and "Tybond" (lightweight) trade names, the gummed tapes are part of the company's Green Core line. Diamond-pattern reinforcement with three-way glass fibres gives the tapes greater strength and durability, the company claims. Another cited benefit of the materials is crosswise flexibility that enables the tapes to cling tightly even to irregular surfaces. *Minnesota Mining & Mfg. Co., Mid-States Gummed Paper Div., Bedford Park, Ill.*

Constant-tension attachment

A pneumatic, constant-tension attachment for use with such converting machinery as slitter-rewinders and laminators is available from Black-Clawson's Dilts Div. The new unit is a dancer roll designed for a wide range of materials and tensions. It is air loaded by remote control and does not require counterweights. The friction-free loading mechanism increases the attachment's sensitivity and makes it applicable for handling lightweight grades, the company claims. *The Black-Clawson Co., Dilts Div., Fulton, N.Y.*

Fast, gentle tablet feeding

Lakso's Model 54 elevating feeder is claimed to eliminate difficulties in loading capsules and tablets into high filling-machine hoppers. The unit has a waist-high hopper of 9-cu.-ft. capacity, a vibrating feeder screen and a vertical conveyor

(left) that lifts tablets to the desired height and deposits them gently into the filling-machine hopper. The feeder's hopper can hold 500,000 tablets, which can be fed at variable speed rates of up to 55,000 per minute, the supplier says. The feeder screen, which eliminates powder, chips and broken tablets, reportedly can be changed over in 30 min. to accommodate different sizes. *The Lakso Co., Inc., Fitchburg, Mass.*

Improved beverage-bottling machine

Crown has added an improved filling machine to its line of carbonated-beverage bottling equipment. Called the Cem Uni-Blend Filler, the lighter-weight unit is claimed to provide economical, high-speed blending and bottling. Among the cited improvements in the machine are: a new type of crown hopper, rubber bottle-handling parts, elevated bottle-carrying mechanisms, a new feed system, jam-proof lift cylinder and a confined air-system manifold assembly. *Crown Cork & Seal Co., 9300 Ashton Rd., Philadelphia 36.*

Sealed paperboard canister for soft goods

A sealable, rigid paperboard canister designed for supermarket merchandising of soft goods has been introduced by American Can. Several companies, including Fruit of the Loom Corp., are

conducting market tests of their soft-goods lines in the new container. According to the supplier, the canister (which is 5½ in. high and 3¼ in. in diameter) offers several self-selection advantages. Among them: it stands upright, stacks well and can be sold from existing supermarket fixtures; its size inhibits pilferage, which is a constant problem in stores that handle non-packaged soft goods; it insures that customers will receive the product in factory-fresh condition, minimizing the incidence of unsalable merchandise and it permits supermarket and other big chains to buy for chainwide distribution. The canister can be paper labeled to compensate for the lack of product visibility, the supplier points out. The reclosable container is fitted with a cellophane tear strip for easy opening. *American Can Co., 100 Park Ave., New York 17.*

Long-wearing, high-speed stapler

Paslode Co. says that its Model AR air-powered stapler combines two major stapling-tool improvements: air return and high-speed piston action. According to the supplier, the air-return feature delivers positive stapling action and extends tool life by eliminating the parts most subject to failure. The high-speed nylon piston is claimed to drive staples uniformly and without recoil for continuous quality work. The hand-operated stapler accommodates wide or narrow crown staples with leg lengths from 3/16 to 3/4 in. *Paslode Co., 2600 N. Western Ave., Chicago 47.*

Stock-design foil ham bags

Aluminum-foil ham bags with two new Christmas stock designs are available from Central States Paper & Bag. The designs are printed in maroon and blue and in red and green. The bags, made of aluminum foil laminated to a special, bleached absorbent sheet, protect the hams and lengthen product shelf life, the supplier claims. According to the company, the bags also permit greater speed in the packaging operation, thereby saving on costs. *Central States Paper & Bag Co., 5221 Natural Bridge Ave., St. Louis 15.*

Cost-cutting cushioning material

Designed for use as protective interior packaging, a new cushioning material claimed to save packing time and to reduce shipping costs is available from Armour. Called Hairflex, it is a rubberized animal-hair material that is reported to be extremely resilient, non-abrading and fungus resistant. The ma-

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- Won't migrate, transfer, or contaminate.
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terial is offered die cut, laminated and custom molded to any shape. Because it is available in custom shapes, the supplier says, no time is required for in-plant set-up, thereby minimizing packing time. The resilience, strength and light weight of the material permit the use of smaller, lighter outer containers, for further reduction of packaging costs, the supplier claims. Another cited advantage of the material, which is said to reduce cushioning volume as much as 50%, is that it can be re-used indefinitely, for savings in overhead. *Armour & Co., Cushioning Products Div., Alliance, O.*

Filling machine for cube containers

Hedwin has introduced an automatic filling machine for its "Cubitainer" liquid-dispensing polyethylene packages. (See "Two New Ways for Battery Acid," MODERN PACKAGING, April, 1958, p. 134.) The single-station unit reportedly has been designed to satisfy the need for an accurate, easily operated filling device for liquid packagers whose quantity requirements are in the range of 1,200 one-gallon or 400 five-gallon units per 8-hr. day. Called the FM-2, the filling machine inflates and fills Cubitainers automatically at the rate of three 1-gal. or one 5-gal. units per minute. The machine, also available in a two-station model, offers high filling accuracy and can be changed over to accommodate different-sized containers in 5 min., the supplier claims. *Hedwin Corp., 1600 Roland Heights Ave., Baltimore 11.*

Pantograph machine engraves printing rolls

A new pantograph-type machine for the engraving of inking and printing rolls from a flat pattern is being distributed in the U. S. by de Florez. Developed by the German firm of Michael Kanph, the machine engraves rubber, plastic and copper rolls for printing on paper, film, foil and other materials. In using the machine, the design or artwork to be engraved is placed on the machine table and, as the arm of the pantograph follows the design, a cutting tool cuts away those areas of the roll surface not required in applying the design to the material which is to be printed. *The de Florez Co., 116 E. 30 St., New York 16.*

Polystyrene cover for aluminum-foil tray

Transparent polystyrene dome covers in a variety of sizes now are available for Ekco-Alcoa's line of circular, rigid aluminum-foil trays. According to the company, the covers provide merchandising benefits for such products as baked goods. (See MODERN PACKAGING, April, 1958, p. 119.) The polystyrene covers are available in thicknesses of 10 to 20 mils. To complete the package, the rim of the aluminum tray is crimped over the edge of the plastic dome, keeping it securely in place. *Ekco-Alcoa Containers Inc., Wheeling, Ill.*

Two adhesives offered

Two adhesives for cementing bondable Teflon (a Du Pont fluorocarbon) to itself or to other materials are available from Raybestos-Manhattan. Ray-Bond R-86009 is suggested for applications in which some flexibility in the bond is required. It is claimed to have good resistance to water and most chemicals. The other adhesive offered, Ray-Bond R-86044, is reported to possess excellent resistance to acids (except acetic) and to various other chemicals as well as to water. Both materials will bond etched Teflon to plastics, aluminum, glass and any other material that will bond with an adhesive, the supplier says. *Raybestos-Manhattan, Inc., Bridgeport, Conn.*

Sundstrand acquires Packmaster line

Sundstrand Machine Tool Co. has acquired all design, manufacturing and sales rights to the Packmaster line of automatic packaging machinery. Machines in the new Sundstrand-Packmaster line can make flat or dome-type packages for hardware, spare parts and similar items, the company says. Single or multiple products can be packaged, with hopper feed available for all models where required. Auxiliary functions, such as counting and printing, are performed by optional accessory equipment. *Sundstrand Machine Tool Co., American Broach Div., Rockford, Ill.*

Automatic steel strappers

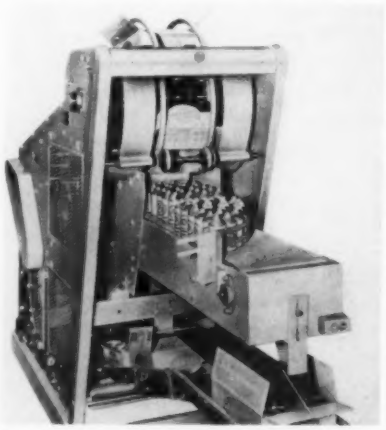
Wiretyer Corp. has introduced its new line of Autostrapper machines for automatic steel strapping of cartons, cases, pallet loads or bales. The load to be strapped is conveyed or placed in position and the machine cycle is started. Adjustable overhead and side clamping rams hold the product in place, after which strapping is drawn from the supply reel, wrapped, tensioned and twist tied to form a seal-less joint. The complete operation takes about 3 sec., depending on the length of strapping required, the company says. The units can handle oval-shaped steel strapping (to form joints with reported strength of up to 900 lbs.) or conventional round strapping. *Wiretyer Corp., East Paterson, N.J.*

Flexographic inks available

Claremont has introduced a new line of matte flexographic paper inks under the trade name "Kraftone." According to the supplier, the inks offer clean, quality printing, without tailing, at a continuous production rate of 1,200 ft. per minute. The inks, claimed to promote production economy, are available in 11 colors, in 5-gal. pails. *Claremont Pigment Dispersion Corp., 39 Powerhouse Rd., Roslyn Heights, N.Y.*

Fast, automatic container uncasers

Two new bottle-, jar- and can-uncasing machines, which reportedly can handle up to 50 cases per minute, have been put on the market by RCA. The unit shown here is designed primarily for use by the brewing industry. It unpacks flat-top and crown-top steel or aluminum cans as well as "steinie" bottles. The second model handles virtually all types and sizes of cans, jars and bottles, according to the supplier. For both machines, change-over to larger or smaller container sizes is reported to take less than one minute. The uncasing operation is the same for both units. The loaded carton, with flaps open, passes under a plow device (right) that holds the flaps back. The empty containers, at this point, are upside down in the case in standard packing fashion. As the case travels into the machine via conveyor, it is carried upward and is automatically inverted along the way. At the top of the machine, a spring-mounted vibrator contacts the bottom of the carton, depositing the empty containers in upright position on a belt which conveys them to the filling station. The empty carton continues on to a discharge conveyor. *Radio Corp. of America, Industrial & Audio Products Dept., 30 Rockefeller Plaza, New York 20.*



As a quality check, Anthony M. Zimmerman, Packaging Superintendent, and Arthur D. Knapp, VP and Plant Manager, inspect positives in the Retouching area of the Long Island City plant.

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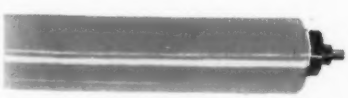

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Plants and people

As part of a continuing program to strengthen corporate identity for its broad range of product divisions, **Union Carbide Corp.**, New York, has changed the name of its former **Bakelite Co.** div. to **Union Carbide Plastics Co.** The renamed company will continue to make and market products under the Bakelite and other trademarks, as before. A revamped sales organization also has been announced for the plastics company. **J. L. Rodgers** becomes director of sales and **T. W. Sharp** is director of product marketing. Mr. Rodgers will be in charge of product-selling operations; Mr. Sharp will be responsible for planning and specialized marketing functions. The new sales organization—which is reported to be the culmination of a year-long study of customer appraisals of company service—has six regional sales managers with broad decision-making powers on the local level.

Rodgers Sharp

Hoerner Boxes, Inc., Keokuk, Iowa, has formed a new company to be known as **Kankakee Container Co.** Located at Kankakee, Ill., the new firm will manufacture corrugated shipping containers, specialties and related products. **E. H. Fienning**, formerly v.p. and gen. mgr. of Hoerner's Keokuk plant, will be pres. **Art Gault** becomes v.p. of the company, which will be in full operation by January.

Richard E. Reynolds has been named to the newly created post of field sales mgr. for Avisco cellophane by the Film Div. of **American Viscose Corp.**, Philadelphia. He will supervise personnel and activities in all the div.'s district offices from company headquarters. Mr. Reynolds had been in charge of the Atlanta sales office for the past 10 years. **Basil F. Millican** succeeds him in that post.

Enjay Co., Inc., New York, has adopted "Escon" as the trademark for its polypropylene, which will be made available in commercial quantities early in 1960. At present, market-development supplies are being furnished by a pilot-plant operation. To meet anticipated demands for the plastic, the company has begun construction of a 30,000-sq.-ft. addition to its customer-service research laboratories at **Linden, N.J.** According to **A. Bruce Boehm**, exec. v.p., the new wing will enable Enjay to assist its customers with product-development and application problems, among other services. The company first reported its entry into the plastics-supplying field several months ago. (See MODERN PACKAGING, Oct., 1958, p. 152.)

Raymond C. Kautz has been appointed sales mgr. of the **Fuller Label & Box** and **Allegheny Label** divisions of **Standard Packaging Corp.**, New York. He will headquarter in Pittsburgh. Mr. Kautz was formerly with **Continental Can Co.** as asst. to the v.p. in charge of corrugated-carton operations. Prior to that he had been with **Olin Mathieson** for six years. At Olin he helped organize the Film Div., and later became its Western sales mgr.

Kautz

A new bakery-packaging program—aimed at promoting the use of aluminum packaging materials and containers in the nation's baking industry—has been begun by the Foil & Container Div. of **Kaiser Aluminum & Chemical Sales, Inc.**, Chicago. **Fred V. Robinson** has been appointed to develop and administer the national program. He has been associated with the baking industry more than 20 years.

William H. Caddoo, gen. mgr. of the Gair Boxboard & Folding Carton Div. of **Continental Can Co.**, New York, has been elected a v.p. of the company. In 1933, Mr. Caddoo joined the former **Robert Gair Co.**, and served successively as tech. director, plant mgr. and asst. v.p. In 1954, he was made a v.p. Mr. Caddoo was appointed gen. mgr. of mfg. for Gair Boxboard & Folding Carton operations after the company's acquisition by Continental in 1956. He was named gen. mgr. of the div. early this year.

Caddoo

W. L. Newman succeeds **Paul Vogt** as chief of the packaging laboratory of the **General Electric Co.**, Schenectady, N. Y. Mr. Vogt retired Sept. 1 after 36 years with the company. Mr. Newman has been with GE, in various packaging positions, for 25 years.

Effective Jan. 1, **National Metal Edge Box Co.** changes its name to **Metal Edge Industries.** The Barrington, N.J., company reports that diversity of operations over the years forced a name change that would indicate its expansion. The company began operations 71 years ago as a manufacturer of metal-edge boxes.

SunOlin Chemical Co. is the name of a new company formed jointly by **Olin Mathieson Chemical Corp.** and **Sun Oil Co.** for the production of urea. **James I. Harper** of Sun Oil becomes pres. of SunOlin. **S. S. Johnson** of Olin is v.p. The new company is headquartered at 100 W. 10 St., Wilmington, Del.

After two years of pilot operations, plastic-squeeze-bottle production is now in full swing at the plant of **Olympic Containers, Inc.**, 3471 So. La Cienega Blvd., Los Angeles. Reported to be the first such supplier in the state, Olympic is now turning out polyethylene containers on mass-production equipment. The company is an affiliate of **Olympic Plastics Co.**, maker of custom-molded plastic products.

Potlatch Forests, Inc., Pomona, Calif., has purchased the Paper Cup & Food Container Div. of **Cupples-Hesse Corp.**, St. Louis. The cup plant will continue operations at its present location and will be expanded at a future date, says Potlatch. Cupples-Hesse reports that the sale of its cup div. will enable the company to acquire additional business in the envelope, tag and bag fields.

St. Regis Paper Co., New York, has acquired by merger the **F. J. Kress Box Co.**, Pittsburgh. Kress will be operated as a div. of St. Regis, but will

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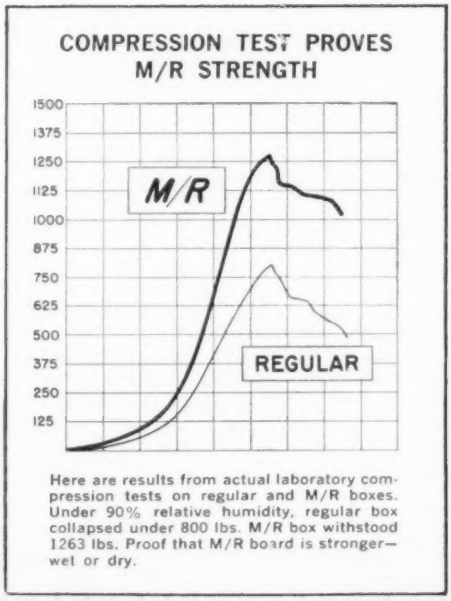
Sarah Lee Gerrish is the new Midwest Editor of MODERN PACKAGING. She succeeds **Phillip A. Urion**, who has resigned to accept the position of editorial director in the Chicago office of **Booz, Allen & Hamilton**, management-consultant firm. Mrs. Gerrish, who will work out of MODERN PACKAGING's Chicago office, was formerly Midwest editor of *Printers' Ink*. In that position, she supervised the magazine's Chicago editorial staff as well as correspondents in key cities in the Midwest area. In her five years with *Printers' Ink*, Mrs. Gerrish was twice winner of the Jesse Neal Award for outstanding journalism, sponsored by the Associated Business Publications. Previously, she was with the Bureau of Advertising, American Newspaper Publishers Assn. Her association activities include first vice presidency in the Women's Advertising Club of Chicago and membership in the American Marketing Assn., Chicago Federated Advertising Club and the Broadcast Advertising Club.

Gerrish

Completely new corrugated box

for packing and shipping wet products



Here are results from actual laboratory compression tests on regular and M/R boxes. Under 90% relative humidity, regular box collapsed under 800 lbs. M/R box withstood 1263 lbs. Proof that M/R board is stronger—wet or dry.

Hinde & Dauch's new M/R (moisture-resistant) boxes—made from a totally new kind of corrugated board—keep their strength no matter how wet the product they protect. Used in produce hydrocoolers, M/R boxes actually shed water instead of soaking it up. In addition, they stack and handle easier; provide better insulation, more product protection. Independent studies indicate that M/R boxes reduce shipping damage to peaches by 50%. And their smooth, clean surfaces can be printed with attractive designs.

Packing and shipping wet products? Write today for full information on how new M/R corrugated boxes can provide substantial savings on your operation.

HINDE & DAUCH

Division of West Virginia Pulp and Paper Company

Authority on Packaging • Sandusky, Ohio • 15 Factories • 42 Sales Offices

Plants and people

maintain its present management and management policies, the parent company reports. Organized in 1880 as a manufacturer of wooden boxes, Kress now makes corrugated and fibre shipping containers.


McNamee

James McNamee has been appointed national sales mgr. for gravure and flexographic inks by **Sinclair & Valentine Co.**, New York. For the past year Mr. McNamee has been working as asst. gen. sales mgr. out of the home office. He joined S&V in 1948 and, by 1952, had worked his way up to mgr. of the company's Rittman, O., branch, a post he held until last year.

Mojonnier Associates, Inc., maker and distributor of aerosol-filling machines, and **Mojonnier-Dawson Co.**, dairy-equipment manufacturer, both of Franklin Park, Ill., have been purchased by **Kartridg-Pak Machine Co.**, Chicago, sub. **Oscar Mayer & Co.**, meat packer. Kartridg-Pak produces packaging equipment. The two Mojonnier companies have been consolidated as the **Mojonnier Associates Div., Kartridg-Pak Machine Co. George W. Heath** of Oscar Mayer has been named gen. mgr. of the new div., and **Albert B. Mojonnier**, pres. and founder of both newly acquired organizations, will remain as a member of the div.'s management.

The Conolite Dept. of **Continental Can Co.**, New York, which is responsible for the manufacturing, sales and research of the plastic laminate, has been integrated with comparable functions of the company's **Flexible Packaging Div. R. J. McLaughlin**, gen. mgr. of the department, has been named mgr. of mfg. for the Flexible Packaging Div.

The **Champion Paper & Fibre Co.**, Hamilton, O., has established a **South American Div. Robert C. Haynie**, the company's v.p. in charge of planning, has been named v.p. and gen. mgr. of the new operation. He will make his headquarters in Sao Paulo, Brazil, until the pulp mill—claimed to be Brazil's first completely integrated bleached-kraft pulping plant—goes into production and an operating organization can be established.

George Rumberger has been named mgr. of fundamental research for **Sutherland Paper Co.**, Kalamazoo, Mich. He succeeds **Dr. Leslie Joyner**, who died recently. Before joining Sutherland last year, Dr. Joyner had been director of research at Godchaux Sugars, Inc. Mr. Rumberger holds a number of patents in the paper-converting field and is a member of the **Technical Assn. of the Pulp & Paper Industry, American Chemical Society** and **American Assn. for Testing Materials.**

Ebon C. Jones has been promoted to Western regional sales mgr. of **Owens-Illinois Glass Co.**, Toledo, O. He is succeeded as mgr. of the Chicago sales branch of O-I's Glass Container Div. by **Emmett P. O'Rourke. John E. Keller** becomes mgr. of the div.'s Rochester sales branch, succeeding **William R. House**, deceased.

A market-development dept. has been created by **Morningstar-Paisley, Inc.**, New York. Its mgr. is **Thomas L. Bonnitt.** According to the company, its new dept. "will provide constant evaluation and development of starch, gum, dextrine, plastisol, latex and adhesives products" used in the packaging and other fields.

Ess Instrument Co. of Bergenfield, N. J., has elected **Raymond W. Heimsoth** pres. and has appointed **Eugene Ross** v.p. in charge of sales. Mr. Heimsoth was formerly v.p. and chief engineer. He is succeeding **Colonel C. C. Sheppard**, who retires after heading the company for 26 years. The company manufactures electronic instruments used in packaging and other fields.

Wilbur C. Stauble has been elected pres. of **Veeder-Root, Inc.**, Hartford, Conn., succeeding **Harvey L. Spaunburg**, who becomes chairman of the board. Mr. Spaunburg, who was company pres. since 1954, succeeds **John N. Chaplin**, deceased. Mr. Stauble has been pres. of one of the company's subsidiaries, The Holo-Krome Screw Corp., since 1952. Veeder-Root manufactures computers and counting instruments which are used in packaging-line operations.


Stauble


Spaunburg

Dixon & Parcels Associates is the name of a new package-, trademark- and industrial-design company with offices at 485 Fifth Ave., New York. The new firm was set up by **Russell S. Dixon** and **Roy Parcels**, former v.p.'s in charge of design for **Jim Nash Associates. George Woolley** and **Henry P. Fauteck**, both former members of the Nash organization, have joined Dixon & Parcels as associate designers.

Auto Wrappers, Ltd., Norwich, England, manufacturer of wrapping and packing machines, has joined the Tobenoil Group of companies, headed by **Tobenoil, Ltd.**, an industrial holding firm. Among the companies within the group is **Ayers & Grimshaw, Ltd.**, of Barnstaple, which makes wrapping machines and with which Auto Wrappers will interchange packaging ideas. On Auto Wrappers' new board of directors,

Ahead with GLASSINE

New...
another striking
example of
Glassine Protection

Here's news in protective packaging! For longer freshness, best flavor, and customer convenience, National Biscuit Company has adopted glassine innerwraps for the new Ritz cracker "Stack Pack." The newly designed carton with its revolutionary fractional inner packaging, contains three cylinders of Ritz crackers, each wrapped in waxed* wax-laminated glassine. Rhinelander Glassine papers are a part of this progressive development.

This functional glassine development was selected for the new "Stack Pack" because it is a most effective moisture barrier, provides breakage protection and recloses easily and positively. Versatile Rhinelander Glassine or Greaseproof is the economical answer for many packaging applications . . . Works smoothly on high speed packaging equipment.

Write for full information and samples, stating your particular application.

*Waxed and printed grades available through leading converters.

GLASSINE • GREASEPROOF •

RHINELANDER

Rhinelander Paper Company • Rhinelander, Wis.

Subsidiary of St. Regis Paper Company

Plants and people

C. W. **Maddison** will continue as managing director, with C. F. **Dennis** as chairman. J. P. **Grimshaw**, E. I. **Hamilton-Parkes** and T. **Kenny** are the new directors. Mr. Maddison also joins the board of Ayers & Grimshaw.

Old Dominion Box Co., Charlotte, N. C., has opened sales offices in New York and Chicago. **Robert H. Zobel** will head the Chicago office as mgr. of Midwestern sales. The office is at 6272 W. North Ave. In New York, at 51 E. 42 St., **N. T. Nerich, Jr.**, will serve as mgr. of Eastern sales.

George P. O'Brien and **Mark T. Concannon** have been appointed mgr. of can sales and mgr. of closure sales, respectively, in the Middle Atlantic region for **Crown Cork & Seal Co.**, Philadelphia. Both are newly created posts. Both men will make their headquarters in Philadelphia. Mr. O'Brien has been with Crown for 11 years. Mr. Concannon, who joined Crown this year, formerly was a mfrs. rep. in the brewing industry.

O'Brien

Concannon

Diamond Gardner Corp., New York, has acquired the **Chaplin Corp.**, South Portland, Me. Chaplin is a research and engineering company specializing in the design and manufacture of pulp-molding machinery.

Standard Packaging Corp., New York, reports that its **Eastern Fine Paper & Pulp Div.** will begin a multi-million-dollar improvement program in its paper mills early next year. Purpose of the improvement, Standard says, is to step up the production and marketing of Eastern's fine papers. Formerly known as **Eastern Corp.**, the div. was acquired by Standard last spring. (See MODERN PACKAGING, June, 1958, p. 150.)

A $500,000, three-story plant for the production of polyethylene film has been opened in **Chippewa Falls, Wis.**, by **Chippewa Plastics, Inc.** According to the company, its new facility has a production capacity of more than 1,000,000 lbs. of film per month.

An 8,000-ton-per-year increase in the production of boxboard is the intent of a plant addition being made by **Continental Can Co.**, New York, at its Boxboard & Folding Carton Div. facility in Los Angeles. The plant services customers on the West Coast.

The **Geo. J. Meyer Mfg. Co.**, Milwaukee, has acquired **Atkron Inc.**,

Plants and people

Cuyahoga Falls, O. The latter company's products include bottle-uncasing machines, case cleaners, case packers, can uncasers and can sorters. Atkron machines will be distributed, under the "Atkron Dumore" trade name, by Meyer and its **Economic Machinery Co. Div.**, Worcester, Mass.

Escambia Chemical Corp., Hartford, has opened a research laboratory at Wilton, Conn. The company reports that laboratory projects will include research into new materials for the plastics industry.

National Adhesives (Canada), Ltd., Toronto, has begun construction of a vinyl-emulsion polymerization plant in that city. The company reports that the plant will produce a variety of vinyl acetate polymers and copolymers for producers of adhesives, paper and other packaging materials. The plant has a rated production capacity of 5,000,000 lbs. annually.

Thomasson of Pa., Inc., Norristown, Pa., recently began operations at its new aerosol custom-loading plant. The new plant has four separate aerosol-production departments: cosmetics, pharmaceuticals, household specialties and paint, protective coatings and industrial products.

An integrated forest-products center has been opened in Red Bluff, Calif., by **Diamond Gardner Corp.**, New York. The $25,000,000 plant has a reported annual production capacity of 30,000 tons of molded-pulp containers.

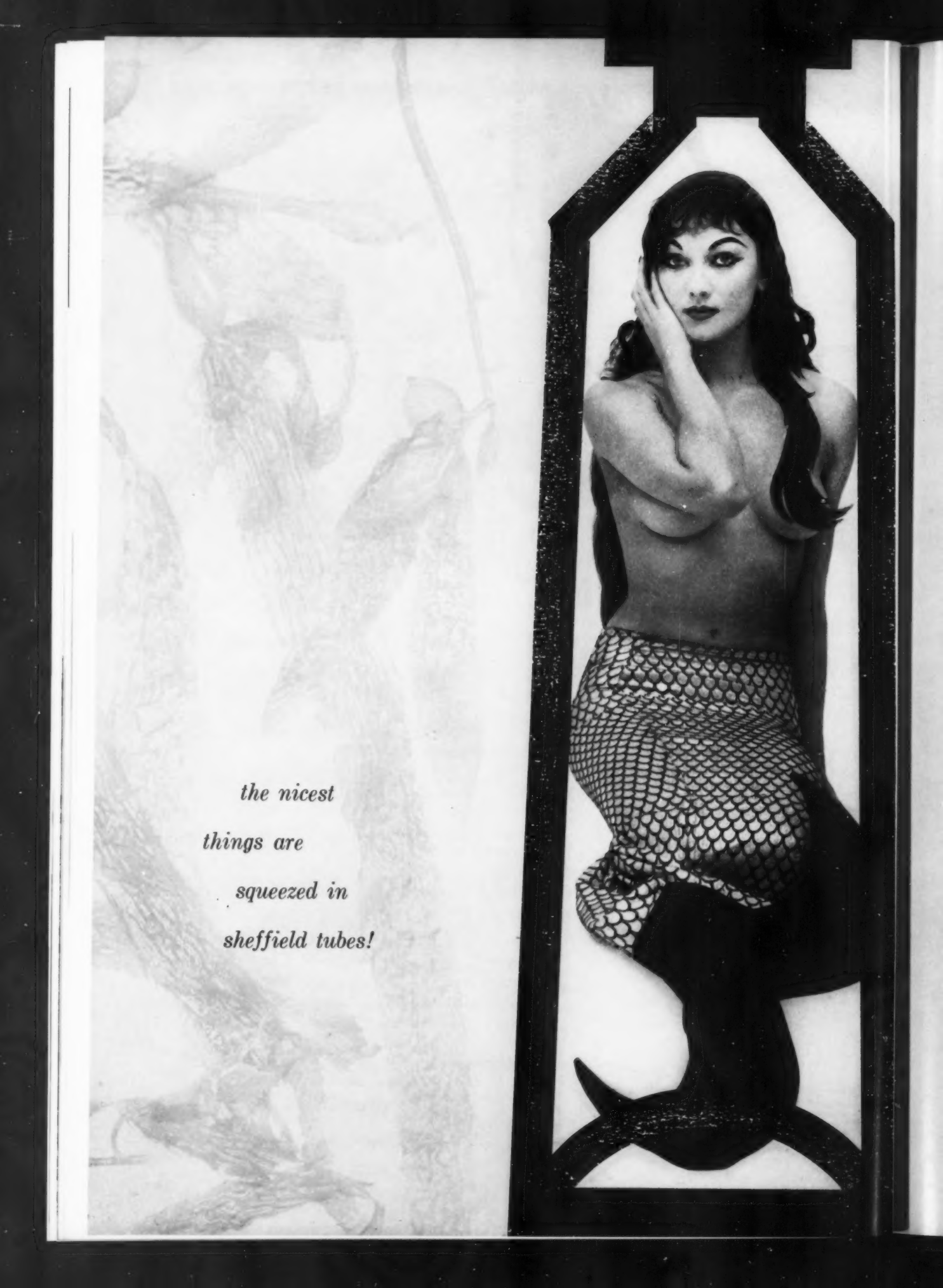
A new plant for the production of Polyken polyethylene pressure-sensitive tapes and tape coatings has been opened at Franklin, Ky., by **The Kendall Co.**, Chicago.

DesignComm is the new name of the former **Dekovic-Smith Design Organization**, Chicago. The package- and industrial-design firm reports that the name change results from an expansion of its services to include product design and architectural coordination as basic elements in over-all corporate promotion.

A new lease plan for its machinery has been announced by **Cameron Machine Co.**, Dover, N.J. A brochure describing the plan is available from the company, which manufactures slitting and roll-winding machinery for the paper, plastics and converting industries.

Helix Machine Co. expands its operations with a move to new, larger quarters at 315 New South Rd., Hicksville, N.Y. According to the company, which makes flexographic and rotogravure

[*Continued on page 146*]

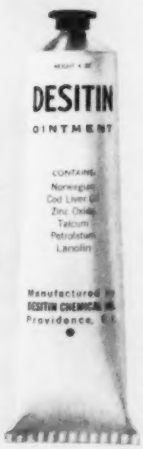

the nicest
things are
squeezed in
sheffield tubes!

sheffield tubes

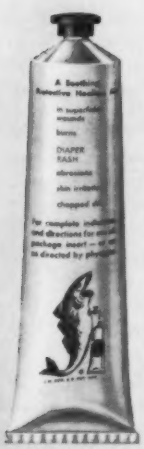
Desitin – the first thought in baby's skin problems – selects Sheffield Tubes, first since 1892 with the last word in collapsible metal tubes. For many products there is only one proper container. Hundreds of America's best selling products are selling better because they are properly contained in the modern, convenient safety of smart looking Sheffield Tubes. You pay no premium for Sheffield's vast experience and complete facilities for tube packaging. Without obligation, discuss all phases of your packaging problems with a packaging expert – the Sheffield man. The Sheffield Tube Corporation.

Home Office and Factory: New London, Connecticut.

Sales Offices: New York, N.Y., Chicago, Ill., Los Angeles, Calif.



Only a metal tube can provide the safe preservation of volatile oils.



Desitin contains: Norwegian Cod Liver Oil, Zinc Oxide, Talcum, Petrolatum, Lanolin

Plants and people

[Continued from page 142]

printing presses, its new facility makes possible increased production capacity as well as an enlargement of its line.

C. Colburn Hardy is pres. of a new public-relations company, **Public Policy Associates, Inc.**, whose offices are at 10 E. 40 St., New York 16. Mr. Hardy was formerly v.p. of Carl Byoir & Associates, where his account service included the **Folding Paper Box Assn.**

Inta-Roto Machine Co. reports that it has expanded its plant at Richmond, Va., as part of a program to increase production. The company makes foil laminators, printing presses, slitters, rewinders and other machinery for manufacturers and converters of film, foil, paper and paperboard.

A new plant—the 10th in a nationwide network—was opened in Fair Lawn, N.J., last month by **Cleveland Container Co.**, Cleveland. The company reports its new plant will produce composite cans, tubing and cores.

Now in full operation is a new ink-making plant opened in Dayton, O., by **Sinclair & Valentine Co.**, New York.

Promotions

Paul L. Frederick: to mgr. of packaging sales, Southern district, Film Dept., **E. I. du Pont de Nemours, Inc.**, Wilmington, Del. Mr. Frederick's headquarters are in Atlanta. The packaging sales organization handles cellophane, acetate film and "Mylar" polyester film for packaging uses.

J. S. Ritter: to asst. Western sales mgr., **Gilman Paper Co., Standard Products Div.**, New York. He will supervise sales of converting papers, gummed tape and reinforced tape.

Wilfred Turbeville: to asst. mgr. of foil sales, a newly created position, **Aluminum Co. of America**, Pittsburgh.

De Witt S. Stillman, Jr.: to administrative asst. to the pres., **Extruders, Inc.**, Hawthorne, Calif. A sub. of the **Dow Chemical Co.**, Extruders is a supplier of polyethylene film.

Edward W. Melvin: to asst. director of sales, resin-products dept., **Plastics Div., Celanese Corp. of America**, Newark.

Maurice Adler: to v.p. for technical service, **California Ink Co.**, San Francisco. **Ernie Congdon:** to Seattle mgr., succeeding **Ray Miller**, who retires after 36 years with Cal Ink. **Bill Blakey:** to Spokane mgr.

John O. Frahm: to Chicago district sales mgr., Multiwall Bag Div., West

Virginia Pulp & Paper Co., New York. **Henry M. Howe:** to Atlanta district sales mgr. **Frank L. Smith:** to Torrance, Calif., district sales mgr.

Appointments

Leo Mortimer: to gen. sales mgr., **International Staple & Machine Co.**, Herrin, Ill. The company manufactures carton-closing stapling equipment.

R. D. Halford: to gen. mgr., Packaging Materials Div., **Fabricon Products Div., The Eagle-Picher Co.**, River Rouge, Mich.

Eugene M. Tyndall: from **Brockway Glass Co.** to product sales mgr., Jackson, Miss., office, **Knox Glass, Inc.**, Knox, Pa. He will coordinate sales and service in the Southern states.

Murray H. Leeper: to market-research analyst, Bleached Board Div., **West Virginia Pulp & Paper Co.**, New York.

Daniel C. Geary: from senior chemist in the aerosol section, **Revlon, Inc.**, to aerosol technical service laboratory for UCON propellants, **Union Carbide Chemicals Co., Div. Union Carbide Corp.**, New York. He will do research and development work on the various aspects of aerosol pressure packaging.

Miriam Morris: to sales-prom. mgr., Packaging Consulting Div., **Rossotti Lithograph Corp.**, No. Bergen, NJ.

Obituaries

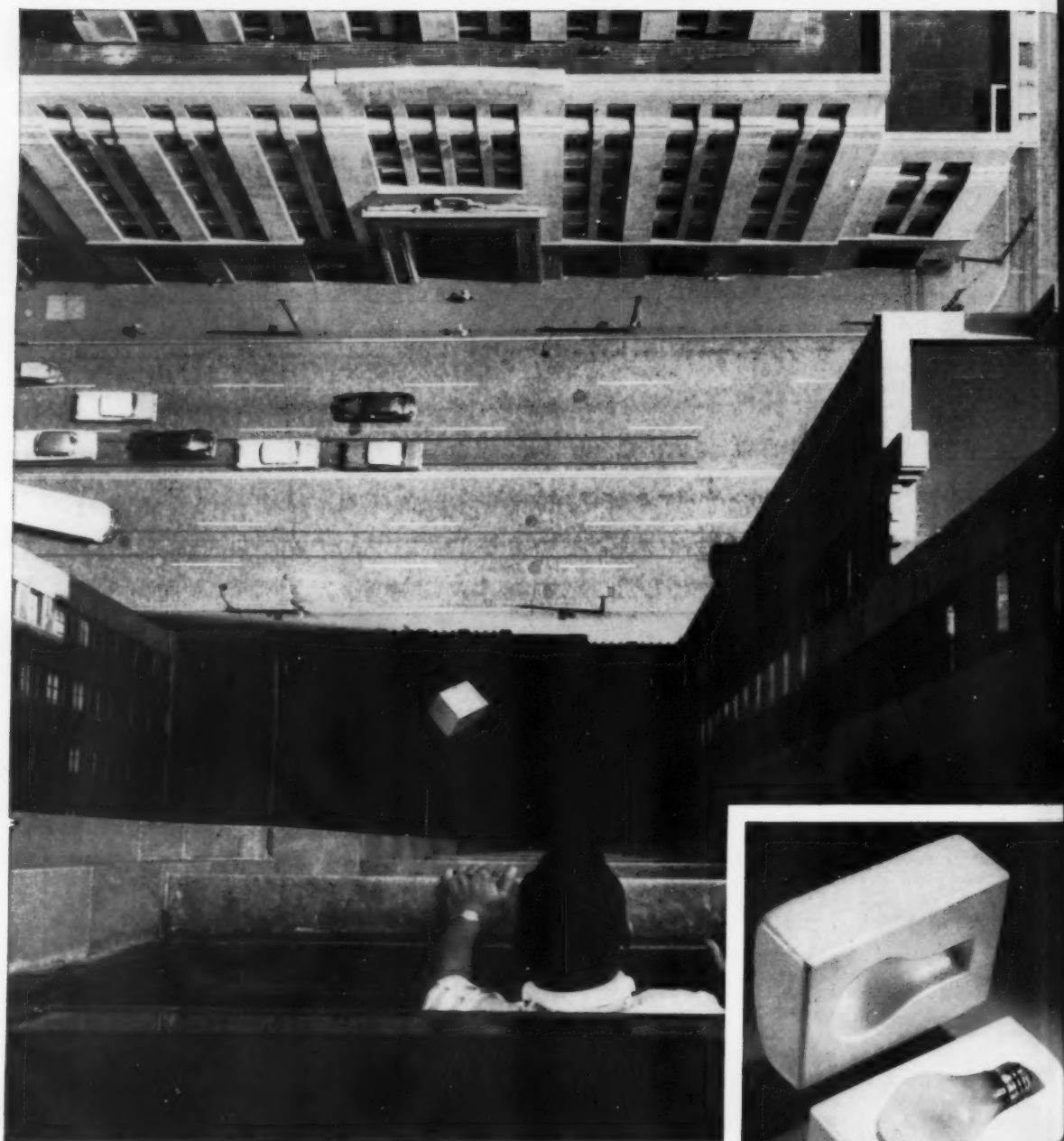
Elliot K. Ludington, board chairman of **Chase Bag Co.**, Chicago, died Oct. 8 at the age of 82. Mr. Ludington entered the bag business in 1896, after graduating from Pennsylvania Military Academy. He became pres. of Chase in 1910 and served in that post until 1934. During his 24-year term as pres., Chase expanded from a two-plant organization to a nationwide network of 13 factories and a paper mill.

Aytch P. Woodson, board chairman of **Mosinee Paper Mills Co.**, Mosinee, Wis., and pres. of **Bay West Paper Co.**, Green Bay, Wis., died Oct. 8. He was pres. of Mosinee from 1931 to 1957, and served as Bay West's pres. since 1928. During his career, Mr. Woodson also had been an executive of **American Box Board Co., Longview Fibre Co.** and **Marathon, Div. American Can Co.**

Wade E. Griswold, former exec. director of the **Lithographic Technical Foundation,** died recently. He had retired June 30 after 14 years as exec. director of the organization.

Emil M. Farris, mgr. of the byproducts sales dept. of **American Viscose Corp.**, Film Div., Philadelphia, died Oct. 19. He was 55. Mr. Farris joined Avisco in 1931, and became district sales mgr. of the Film Div. in both Philadelphia and New York before his appointment in 1954 as mgr. of byproduct sales.

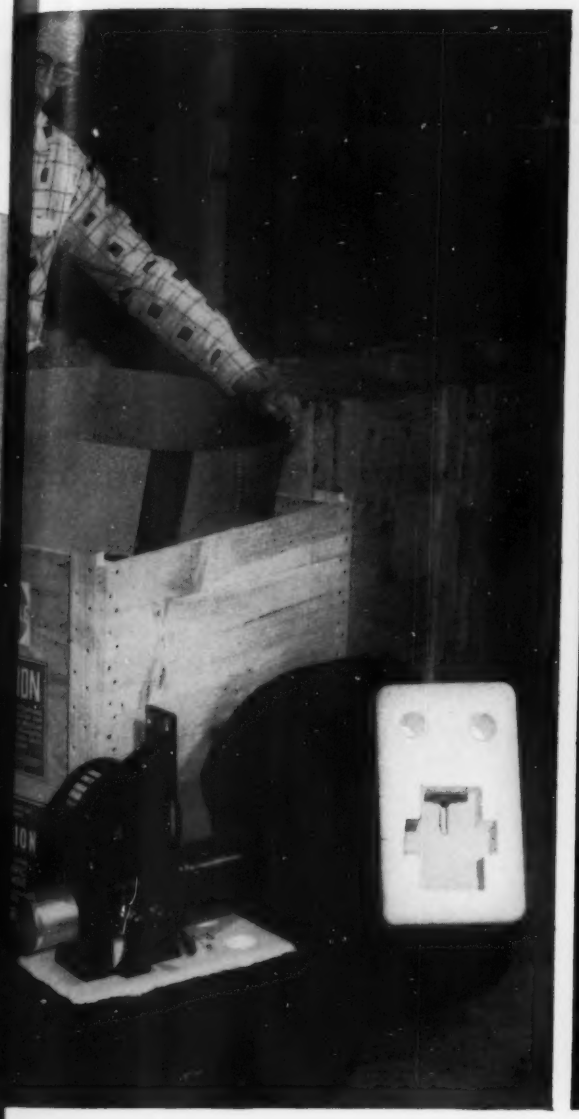
LIGHT BULB SURVIVES 30-STORY FALL IN DYLITE PACKAGE

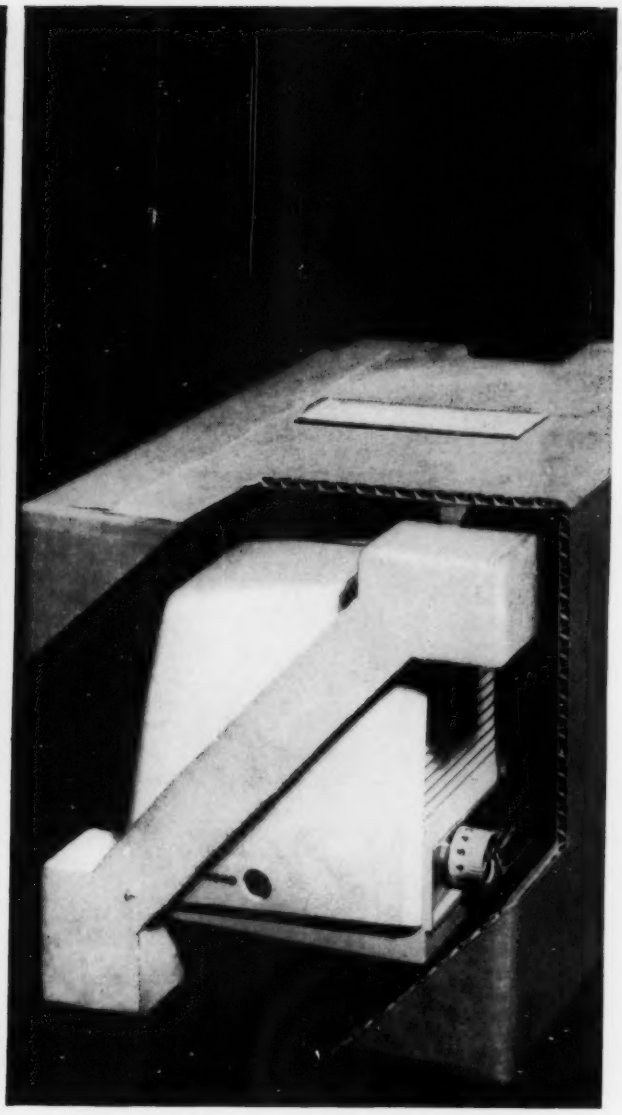


Actual photograph of DYLITE package after 30-story fall.

DYLITE shields fragile light bulb

The dramatic picture showing a light bulb being dropped from the Koppers Building is *true!* It fell 30 stories in a DYLITE plastic package . . . and didn't shatter. In fact, it still worked perfectly when removed from the DYLITE package. This rigorous test proves that DYLITE has amazing impact resistance. It proves, too, that fragile products, packaged in DYLITE, get safe-conduct in shipment. *Demonstration package molded by: Lone Star Plastics Company, Inc., Ft. Worth, Texas.*





DYLITE guards delicate magnetron

A Raytheon radar magnetron is an expensive electronic device that requires careful handling. Here, in this new air-shipper, shock-absorbing DYLITE assists in the protection of the magnetron. The special indexing feature cradles the magnetron and distributes the shock in shipment. If you're designing or working with expensive machinery that needs special care, perhaps DYLITE is your answer. *Package molded by: Duval Industries, Winthrop, Massachusetts.*

DYLITE protects sensitive clock-radio

Besides being impact-resistant, DYLITE can also be molded to any size or shape. Look closely at this package—notice how DYLITE fits snugly around RCA Victor's Clock-Radio. By choosing DYLITE for the packaging material, approximately 23¢ per unit was saved, including material cost, labor and overhead. *Package components molded by: Sullifoam Corp., Willow Grove, Pennsylvania.*

Koppers also makes these other fine plastics for your packaging needs: **DYLENE** polystyrene, **SUPER DYLAN** polyethylene and **DYLAN** polyethylene. For more information, wire or write Koppers Company, Inc., Plastics Division, DYLITE Dept. MP-128 Pittsburgh 19, Pennsylvania. TWX Call Number PG533.

Offices in Principal Cities

In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario

Typical Properties of DYLITE—2 lb. Density/Cu. Ft.

- Compressive Strength—30 Psi
- Tensile Strength—55 Psi
- Water Vapor Transmission—1.18 Perms.
- Water Absorption—.04 Lbs./Sq. Ft. After 48 Hrs. Immersion
- Thermal Conductivity—0.242 at a 75°F. Mean Temperature
- Energy Absorption (Maximum Load)—56.74 In. Lbs./Cu.In.

KOPPERS

KOPPERS PLASTICS

DYLITE, DYLENE, SUPER DYLAN and DYLAN are registered trademarks of Koppers Company, Inc.

For your information

J. Henry Richmond, pres. of Potdevin Machine Co., was elected pres. of the **Packaging Machinery Mfrs. Institute** at its recent 26th annual meeting. Mr. Richmond previously served as first v.p. of the group. Other PMMI officers elected are: first v.p.—**K. B. Hollidge**, Arthur Colton Co.; second v.p.—**W. R. Huguenin**, FMC Packaging Machinery Div., Stokes & Smith Co.; third v.p.—**Albert R. Stevens**, Elgin Mfg. Co. New PMMI directors are: **W. W. Anthony, Jr.**, Crompton & Knowles Packaging Corp.; **Harold L. Bartelt**, Bartelt Engineering Co.; **E. L. Kuhn**, Consolidated Packaging Machinery Corp.; **Harold Mosedale, Jr.**, Package Machinery Co., and **Herbert H. Weber**, H. G. Weber Co.


Richmond

The **Society of Packaging & Handling Engineers** has been adopted as the new name for the former **Society of Industrial Packaging & Materials Handling Engineers**. The name change, approved unanimously at a meeting of the group's board of directors, results from "a consensus that the old name was unnecessarily long and restrictive in its meaning," reports SPHE.

At the same meeting, **C. J. Carney, Jr.**, submitted his resignation as managing director, effective Dec. 31. In accepting his resignation, SPHE expressed its appreciation to Mr. Carney for his long service in that post.

At its annual board meeting in New York, the **American Management Assn.** elected **Dr. Roger H. Lueck** v.p. in charge of its research and development division. Dr. Lueck, who also is v.p. for research, American Can Co., will head a voluntary planning council made up of 23 authorities in the research and development field. The group's duties are to give guidance to the AMA staff for proposed meetings to be conducted by the division.

Karl L. Weik of Cello-Foil Products Co. was elected pres. of the **Flexographic Technical Assn.** at its recent organizational meeting in New York. Other officers of the new association are: v.p.—**Frank Longenecker**, Simplex Paper Box Co., and **Franklin Moss**, Mosstype Corp.; exec. secy.—**Julian Ross**; secy.—**Douglas E. Tuttle**, Interchemical Corp., and treas.—**Sidney S. Shapiro**, Bensing Bros. & Deeney Co.

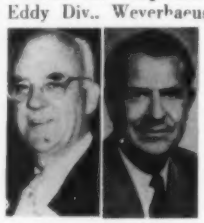
FTA also has set up three technical committees for the study and solution of industry problems. They are: Printing, under the chairmanship of **Frank W. Brey**, Paramount Paper Products Co.; Machinery and Equipment, headed by **Robert Zuckerman**, Kidder Press Co., and Supplies and Materials, headed by **A. R. Bradie**, Mosstype Corp.

Inquiries concerning membership in FTA should be directed to **Julian Ross** at the association's headquarters, 220 W. 42 St., New York 36.

Karl Fink, pres. of Karl Fink & Associates, industrial-design firm, was elected pres. of the **Package Designers Council** at its sixth annual meeting in New York. He succeeds **Jim Nash**, head of Jim Nash Associates. Other officers are: **George Reiner**, exec. v.p.; **Margery Markley**, secy., and **Harry S. Lapow**, treas. **Francis E. Blod, Donald Deskey** and **Walter Landor** were elected to three-year terms on PDC's board.

Mr. Fink reports that in the coming year the design group will begin a program to improve the training of young people who are interested in package design as a career. He said PDC will sponsor "a comprehensive conference at which educators and professional designers will fully explore the question of package-design curricula."

Charles H. Carpenter of Kieckhefer-Eddy Div., Weyerhaeuser Timber Co., was elected pres. of the **Fibre Box Assn.** at the group's recent annual meeting in New York. Elected v.p. was **George B. Downing** of Downing Box Co. A. W. **Hoffman** of Continental Can Co., Fibre Drum & Corrugated Box Div., was named chairman of FBA's Technical Committee.


Carpenter Downing

Also at the association's annual meeting, eight executives were elected new members of its board of directors. They are: Mr. Downing; **C. T. Evans**, Fort Wayne Corrugated Paper Co.; **J. H. Folkerth**, Birmingham Paper Co.; **R. M. Goldstein**, Nivison-Weiskopf Co.; **Meyer Jaffee**, J&J Corrugated Box Corp.; **L. R. Osborn**, American Box Corp.; **R. G. Paramore**, Central Fibre Products Co., and **A. W. Schulte**, River Raisin Paper Co.

Available from the **Chemical Specialties Mfrs. Assn.** is a 24-page booklet which covers the complete presentation made by its Aerosol Div. to the **Institute of Food Technologists** meeting in Chicago last May. Titled "Symposium on Food Aerosols," it consists of five separate papers: "The History and Background of Pressurized Food," "Packaging Requirements for Pressure-Propelled Foods," "Heat Preservation of Pressure-Dispensed Food Products," "How a Manufacturer Can Start and Complete a Pressurized-Food Program" and "The Food Processor in the Pressurized-Food Field." The reprint booklet, with special title cover, is priced at $1.50 each (postpaid) for up to 24 copies, $1 each for 25-99 copies, 90 cents each for 100-249 copies, 80 cents each for 250-499 copies and 75 cents each for 500-999 copies. CSMA's address is 50 E. 41 St., New York 17.

The **Metropolitan Assn. of Film Converters**, New York, has set up a committee to study the possibility of standardization of gauges for polyethylene and other packaging films. The association also has created a committee for the planning and development of new and efficient uses for thermoplastic films.

"Adhesives" was the theme of the fall meeting of the **Chemical Market Research Assn.**, held Nov. 12-13 at the St. Paul Hotel, St. Paul. The nature and size of markets for adhesives and future trends in the industry were the subjects of talks given by **R. F. Blomquist** of the U. S. Dept. of Agriculture, **D. W. Maher** of Minnesota Mining & Mfg. Co. and **R. E. Smith** of H. B. Fuller Co.

A feature of the meeting was a panel discussion on the methods of marketing research which led to the commercialization of new products in the fields of adhesives, epoxy resins, fluorocarbons and polyethylene. Participants were: **W. H. Bromley, Jr.**, Shawinigan Resins Corp.; **J. C. Hoopes**, E. I. du Pont de Nemours & Co., Inc.; **A. Jonnard**, Shell Chemical Co.; **E. W. Segerbrecht**, Spencer Chemical Co.; **S. D. Koonce**, American Cyanamid Co.; **W. L. Machmer, Jr.**, Allied Chemical Corp.; **Frank**

Events

Dec. 8-10—**Chemical Specialties Mfrs. Assn.**, 45th annual meeting, Hotel Commodore, New York.

Dec. 10-12—**Super Market Institute**, mid-year conference, Hollywood Beach Hotel, Hollywood, Fla.

Dec. 13—**National Food Brokers Assn.**, annual national food sales conference, Chicago.

Jan. 6-12—**American Rack Merchandisers Institute**, 8th annual convention, Sheraton Hotel, Chicago.

Jan. 12-16—**National Housewares Mfrs. Assn.**, 30th annual national housewares exhibit, Navy Pier and Drill Hall, Chicago.

Jan. 26-29—**Plant Maintenance & Engineering Show & Conference**, Public Auditorium, Cleveland.

Murphy, National Starch Products; P. W. Wood, Union Carbide Plastics Co., Div. Union Carbide Corp., and H. W. Zabel, Roger Williams Technical & Economic Services.

The **Glass Container Mfrs. Institute** has named **John W. Fisher** of Ball Bros. Co. as chairman of its 13-member market-research and promotion committee. He succeeds **Glenn A. Mengle** of Brockway Glass Co., who was recently elected pres. of the association.

The **Folding Paper Box Assn. of America** is now accepting entries for its 1959 **Folding Paper Box Competition.** Deadline for submission of entries is Dec. 31.

The 100 winning cartons in the annual competition, which is open to FPBA members, will be announced next March during the association's annual meeting. To be eligible, cartons must be made of not less than 50% paperboard and must have been manufactured and shipped during 1958. As in past years (see "Best Folding Boxes," MODERN PACKAGING, April, 1958, p. 140), entries will be judged in four classifications: Technical Superiority of Printing, Superiority of Construction, Best Example of Potential New Volume Use and General Merchandising Superiority. First and merit awards will be given in each category.

A number of packaging events were held in Paris last month under the auspices of the **European Packaging Federation.** They included: Nov. 4—Jury meeting to select winning entries in the "Eurostars for Packaging" competition; Nov. 5—EPF general meeting; Nov. 5-13—12th French Packaging Show, and Nov. 6-7—8th French Packaging & Point-of-Sale Advertising Convention.

A dictionary of scale terms is being offered by the **Scale Mfrs. Assn.** Titled "Terms and Definitions for the Weighing Industry," the book explains 1,170 terms peculiar to scales and weighing. Single copies of the new dictionary, at $1 each, are available from the Scale Mfrs. Assn., Inc., One Thomas Circle, Washington 25, D.C.

Two veteran packaging officials were honored recently for "inspiring leadership and faithful service" by the **Waxed Paper Merchandising Council.** They are **Alfred Southon** of The KVP Co., and **George C. Wieman** of the Western-Waxide Div., Crown Zellerbach Corp. The presentations were made at a testimonial dinner held by WPMC in the Drake Hotel, Chicago.

Packaging and package design will be featured in exhibits at the first **International Fair of San Francisco,** to be held June 4-14, 1959, at the San Francisco Cow Palace. According to its sponsors, the event will be an annual affair. Various suppliers in the paper and container industries are expected to have exhibits in the 56-acre showplace. Details are available from the International Fair of San Francisco, 325 Pacific Ave., San Francisco 11.

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William C. Simms
EXECUTIVE EDITOR
MODERN PACKAGING ENCYCLOPEDIA ISSUE

P.S. The response of MODERN PACKAGING's subscribers to previous requests for student copies has been truly enthusiastic. Several thousand copies of earlier Encyclopedia Issues have thus far been distributed to students in our schools and universities!

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U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey.

Sealing Nitrocellulose Cement, M. K. Dresden (to A. H. Wirz, Inc., Chester, Pa.). U.S. 2,849,739, Sept. 2. In a package, a metallic vessel containing nitrocellulose adhesive and having a tip provided with an orifice. A handle extends over the outside of the tip and has a tapered portion engaging the interior of the orifice which acts as a seal and, on removal, withdraws adhesive and functions as an applicator.

Carton-Closing Machine, L. McGihon (to King Sales & Engineering Co., San Leandro, Calif.). U.S. 2,849,846, Sept. 2. In a carton-closing machine, a conveyor for moving a carton with containers therein along a path, said carton having a flap folding inwardly to a closed position, and tucking means including a tucking blade for producing a 90-deg. fold to closed condition.

Capping Apparatus, R. F. Anderson, Rockford, Ill. U.S. 2,849,847, Sept. 2. In a machine for applying covers to a receptacle, a receptacle support, capping means overlying the support for applying covers to the receptacle thereon, a cover magazine, a reciprocable shuttle, feed means for delivering the cover to the shuttle, a suction cup on said means and means for applying a vacuum to the cup and for applying pressurized air to the cup to discharge the cover.

Stopper-Applying Machine, J. Ravn (to the West Co., Inc., Phoenixville, Pa.). U.S. 2,849,848, Sept 2. In a machine for applying one-piece flanged resilient stoppers having insertable portions to containers: a movable plunger member operable to push a stopper into a container, holders to support the stopper for insertion and engageable by the top of the container to be spread thereby and release the stopper as it is introduced into the container, and means for exerting force on the stopper.

Guides for Box-Wrapping Machines, M. M. Guggenhein (to National Equipment Corp., New York). U.S. 2,849,849, Sept. 2. In an apparatus, a support, a pair of racks vertically guided on the support, a lengthy pinion rotatively mounted in bearings and in direct meshed engagement with both of the racks, a crank on one end of the pinion for vertically raising or lowering both of the racks, a shoe movable through a passage in one of the bearings, a screw-threaded member for moving the shoe and a guide plate to which the racks are attached.

Packaging Insert for Packing Box, M. F. Shamberg and J. E. Blythe (to the Secretary of the Army). U.S. 2,850,155, Sept. 2. A strip of substantially rigid sheet material, said sheet including a central bridge portion and opposite end portions each having side flanges to define substantially triangular columns, said columns being complementary to opposed corners of the packing box and maintaining the bridge midway between the top and bottom of the packing box.

Dispensing Box for Sheet-Wrapping Material, W. A. Klein, A. J. Mason and J. Holzschu (to Dow Chemical Co., Midland, Mich.). U.S. 2,850,157, Sept. 2. An improvement in a box for dispensing plastic sheet-wrapping film.

Protective Holder for Disk Recordings, T. Woodward. U.S. 2,850,158, Sept. 2. A holder for disk recordings, comprising parallel superposed sheets of stiff material defining an enclosure of substantially square shape, and formed with a hinge to define a pocket.

Carton, L. McGihon (to King Sales & Engineering Co., San Leandro, Calif.). U.S. 2,850,159, Sept. 2. In a package including a carton and containers therein (said carton having end panels hinged to top and bottom panels), a flap hinged to at least one of the edges of said top and bottom panels, a carton portion connected to said flap and having an enlargement at its end positioned to form a lock to hold the carton closed.

Package, G. E. Siebel, W. G. Lister and M. Giordan (to Central Products Co., Northfield, Ill.). U.S. 2,850,160, Sept. 2. An envelope having a slit near one end, a strip wrapped around the envelope with a slit in one end and a tongue at the other end, said tongue extending through both of said slits for securing said strip to said envelope and extending beyond one end of said strip to provide support.

Bottle Closure, A. Lepri (to Bottle Dispensing Co., Inc., Springfield, Mass.). U.S. 2,850,192, Sept. 2. In combination with the neck of a bottle having an annular outwardly projecting rim at the upper end thereof around a central outlet, a non-refillable closure means.

Single-Piece Bottle Closure, G. Wieckmann, Windsheim, and H. Hufnagel, Neustadt/Aisch, Germany. U.S. 2,850,193, Sept. 2. A single-piece closure comprising a stopper and including a plurality of elastic spaced coaxial cylinders, and webs connecting the individual cylinders.

Screw Cap, H. W. Williams, Pawling, N. Y. U.S. 2,850,194, Sept 2. A screw cap adapted to be threaded over the neck of a bottle, consisting of two pieces—one adapted to engage the neck of the bottle, the other fitting snugly between the inner and outer walls of the first piece and overlying the top wall of the first piece.

Tag Machine, Alan M. Swett (to Dennison Mfg. Co., Framingham, Mass., a corporation of Massachusetts). U.S. 2,850,208, Sept. 2. A tag machine comprising a magazine for holding a supply of tags, feeding means and controlling means.

Package, Oscar H. Hultin (to Pneumatic Scale Corp., Quincy, Mass., a corporation of Massachusetts). U.S. 2,850,222, Sept. 2. A carton having top closing flaps and a lining for the carton having its top folded to form a tab.

Carrier for Articles, Herman H. Strauss (to Crown Zellerbach Corp., San Francisco, a corporation of Nevada). U.S. 2,850,223, Sept. 2. A unitary carrying tray having a body section and a two-ply longitudinal partition member.

Carrying Device for Containers, Ronald E. J. Nordquist (to American Can Co., New York, a corporation of New Jersey). U.S. 2,850,319, Sept. 2. A carrier for a container having at its upper end a laterally projecting ledge.

Bag Overslip Machine, Harold H. Offutt (to Sid Richardson Carbon Co., Fort Worth, a corporation of Texas). U.S. 2,850,855, Sept. 9. A method of inserting a filled package from a conveyor line containing multiple packages into an empty overslip without changing the line of travel of said packages.

Apparatus for Attaching Metal Vial Seals, Arthur S. Taylor et al (to American Cyanamid Co., New York, a corporation of Maine). U.S. 2,850,859, Sept. 9. An apparatus for curling a soft metal seal around a resilient stopper in a vial.

Method and Means for Initially Flexing Foldable Paperboard Carton-Handle Portions and the Like, Charles Barker et al (to Mead-Atlanta Paper Co., a corporation of Ohio). U.S. 2,850,953, Sept. 9. Apparatus for initially flexing and thereby freeing for subsequent use a foldably hinged handle portion of a paperboard carton.

Set-Up Machine, Edwin L. Arneson (to Federal Paper Board Co., Bogota, N.J., a corporation of New York). U.S. 2,850,954, Sept. 9. A machine for setting up tray-like cartons of the type which are formed from a generally rectangular blank of paperboard material.

Combination Pre-sterilized Syringe and Container, Michael Lipari (to Lee Barry Laboratories, Inc., New York, a corporation of New York). U.S. 2,851,-

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U.S. patents digest

036, Sept. 9. A combination pre-sterilized syringe and container providing a device for obtaining and storing a specimen of fluid.

Apparatus for Distributing Cartons or the Like, Joseph H. Sherrill (to R. J. Reynolds Tobacco Co., Winston-Salem, N.C., a corporation of New Jersey). U.S. 2,851,146, Sept. 9. Apparatus for distributing a succession of articles into a plurality of paths.

Art of Packaging Incandescent Lamps and Carton Therefor, Lyman C. Gish et al (to The Ohio Boxboard Co., Rittman, O., a corporation of Ohio). U.S. 2,851,158, Sept. 9. A carton for packaging incandescent lamps, initially for testing and ultimately for handling, shipment, storage, display and sale.

Container and Bail Ear Construction, Hugh Hall (to Therm-O-Plastic Products, Inc., Urbana, O., a corporation of Ohio). U.S. 2,851,187, Sept. 9. In a unitary plastic container having side walls, the combination of bail ears on opposite of said side walls for attaching a carrying bail having a hooked end portion to said container.

Milk-Bottle Cap, Roger L. Nowak, West Boylston, Mass. U.S. 2,851,203, Sept. 9. A flexible, one-piece cap for a milk bottle of the type having an upper open end, a smooth rounded lip portion and an enlarged coaxial recessed opening on the inner surface of said lip.

Display-Tray Blank and Container, Rolf A. Samsing, Braintree, Mass. U.S. 2,851,206, Sept. 9. A display container comprising two paperboard sheets, each having a rectangular bottom forming panel intermediately between two end portions of the sheet.

Boxes Having Reversible Handles, Robert M. Bergstein (to The Bergstein Packaging Trust, a trust composed of Robert M. Bergstein et al, trustees). U.S. 2,851,211, Sept. 9. In a knocked-down box structure formed from a flat blank, a handle member secured at its end portions only to the end portions of the flanges.

Polyvinyl Wrapping Tape, Joseph M. Gordon (to Chicago Printed String Co., Chicago). U.S. 2,851,787, Sept. 16. A binding loop or ribbon comprising a unitary, endless, relatively narrow band of substantially uniform width having a thickness of approximately 6-16 gauge and being stretchable by about 15-35%.

Shipping Case Setting-Up and Positioning Apparatus, Edgar Ardell et al (to Emhart Mfg. Co., a corporation of Delaware). U.S. 2,851,837, Sept. 16. A machine for setting up and positioning shipping cases.

Packaging Machine, Thomas W. McIntyre et al (to Mac, Inc., Dumont, N.J., a corporation of New Jersey). U.S. 2,851,838, Sept. 16. A packaging machine comprising a frame and a support for a stack of bags, a tongue, and means for directing an air blast toward

U.S. patents digest

each of those portions of the front edge of the top bag which are not engaged by the tongue and which lie on either side of the tongue to inflate the top bag.

Container, Jacques L. Bieler (to National Dairy Products Corp., a corporation of Delaware). U.S. 2,852,179, Sept. 16. A container comprising a side wall forming an open-end cylindrical portion, a bottom and a removable top.

Collapsible Carton, William H. Inman (to Bloomer Bros. Co., Newark, N.Y., a corporation of New York). U.S. 2,852,180, Sept. 16. A collapsible carton having a self-erecting bottom.

Can-Holding Carton, Reynolds Guyer (to Waldorf Paper Products Co., a corporation of Minnesota). U.S. 2,853,183, Sept. 23. In combination with a generally rectangular carton having a closed top, a can tray having a bottom panel substantially co-extensive with said closed carton top and secured thereto.

Damage-Resistant Package, Robert D. Rollie (to Minnesota Mining & Mfg. Co., St. Paul, Minn., a corporation of Delaware). U.S. 2,853,185, Sept. 23. A roll-suspension packaging pad adapted to distribute shear forces acting upon the same in a uniform manner.

Can Carrier, Lawrence O. Holmberg, Winnetka, Ill. U.S. 2,853,186, Sept 23. A package comprising a plurality of juxtaposed stacks of articles, a sheet-material strip snugly encircling said stacks and a sheet-material separator member disposed between the adjacent end flanges of the articles in each of said stacks.

Flexible-Tube Container and Method of Making the Same, Wallace H. Shapero (to Wallace Container Co., Santa Ana, Calif., a corporation of California). U.S. 2,853,187, Sept. 23. In combination, a body of fluid material of oily texture and a flexible-tube type dispensing container.

Insulated Foil-Lined Paper Cup, John P. Gallagher, Chicago. U.S. 2,853,222, Sept. 23. An expendable cup having a surrounding side wall and a bottom element, all portions of the cup being made of laminated stock.

Box Handle and Closure, Robert Slater et al (to Paul O. Tobeler, Los Angeles). U.S. 2,853,224, Sept. 23. A combination box and handle, said box comprising a body portion and a lid removably fitted over said body portion, and a U-shaped handle.

Collapsible Container, Gerald C. Bauer (to Cellu-Kote, Inc., Schoolcraft, Mich., a corporation of Michigan). U.S. 2,853,225, Sept. 23. An elongated container formed of a flexible material and consisting of a sheet folded to form four side walls, a sealing strip, a second sealing strip and stitching elements.

Wrapping and Sealing Machine, Milton A. Wertheimer (to Gellman Mfg. Co., Rock Island, Ill., a corporation of Illinois). U.S. 2,853,841, Sept. 30. An automatic package-wrapping machine comprising an elevator movable in a vertical direction from a package-receiving position to a package-discharge position, a stationary paper tunnel, means to handle a web of paper and wrapping means.

Apparatus For Filling and Closing Bags, Eric W. Vredenburg (to St. Regis Paper Co., New York, a corporation of New York). U.S. 2,853,842, Sept. 30. An improvement in apparatus for gripping and filling bags of the open-mouth type.

Bottle Closure, Nathan C. Kirsch (to Schering Corp., Bloomfield, N.J., a corporation of New Jersey). U.S. 2,854,003, Sept. 30. A bottle closure comprising a sealing plug adapted to be inserted into the neck of a bottle having an external thread.

Collapsible Container, Marion M. Cunningham (to United States Rubber Co., New York, a corporation of New Jersey). U.S. 2,854,048, Sept. 30. A collapsible container having a generally cylindrical body portion and head portions closing each end thereof.

Tape-Applying Machine, Louis Triolo, Brooklyn, N.Y. U.S. 2,854,164, Sept. 30. An automatic machine for applying a tab of normally tacky, pressure-sensitive adhesive tape to upper and lower faces of a blank.

Collapsible Container, Mitchell E. Foster et al (to Packing Material Co., Inc., Detroit, a corporation of Michigan). U.S. 2,854,165, Sept. 30. A collapsible pallet-type container comprising a rectangular pallet forming the bottom wall of the container and a pair of rectangularly shaped fibreboard panels on the pallet.

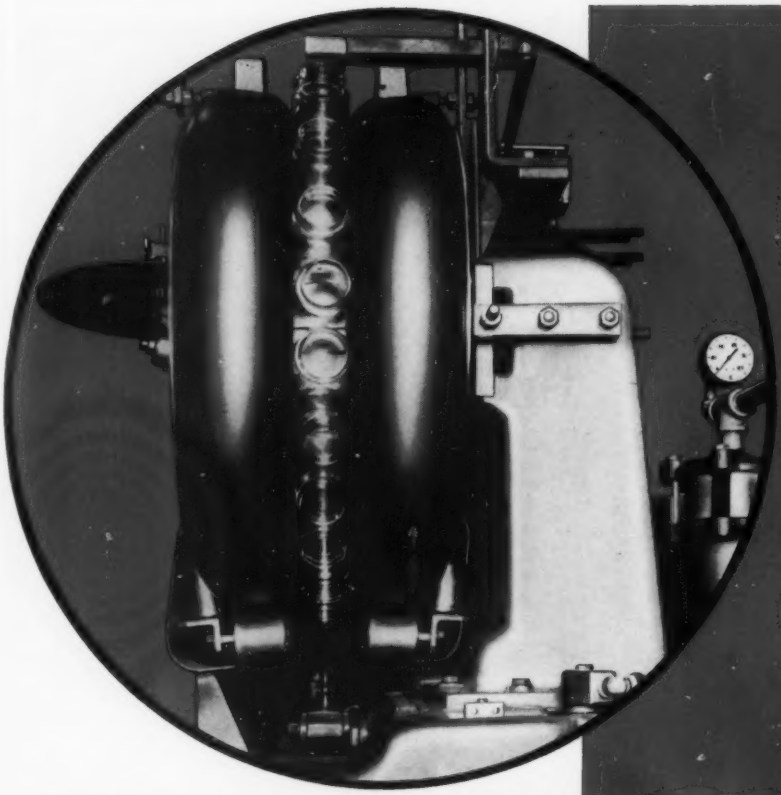
Can, Philip J. King, Richmond, Calif. U.S. 2,854,167, Sept. 30. A can comprising side and top walls arranged parallel and perpendicular to a central axis and being adapted for opening by severing said top wall at its periphery to define a free, removable lid.

Windowed Carton with Integral Dividers, Geoffrey J. Dodd (to Cornell Paperboard Products Co., Milwaukee, a corporation of Wisconsin). U.S. 2,854,182, Sept. 30. A box blank unitarily comprising a series of connected panels and a flap connected to a margin of an end panel in said series and foldable into the box.

Easily Openable Carton Top, William H. Heine (to Kellogg Co., Battle Creek, Mich., a corporation of Delaware). U.S. 2,854,184, Sept. 30. A paperboard carton comprising a plurality of walls and a top, said top comprising an upper, single-thickness, relatively deflectible flap joined to a side wall.

Handled Carrying Bag, Harford K. Steen (to Interstate Bag Co., Inc., a corporation of Virginia). U.S. 2,854,185, Sept. 30. A carrier paper bag comprising opposed walls, a flexible looped-paper handle and a reinforcing tab.

Bag, Russell J. Williams (to Bemis Bro. Bag Co., St. Louis, a corporation of Missouri). U.S. 2,854,186, Sept. 30. A multi-ply bag formed from a length of multi-ply paper tubing and having a front wall and a back wall, the plies of the tubing having the edges thereof which extend lengthwise of the tubing laterally offset.



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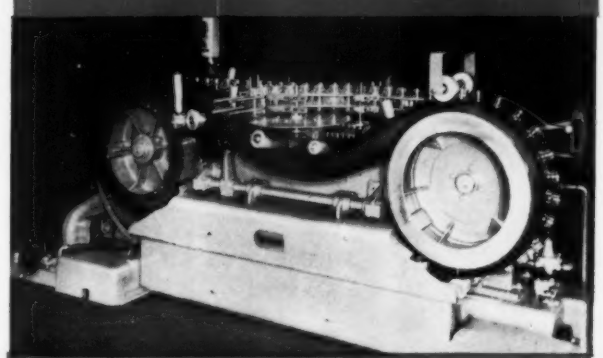

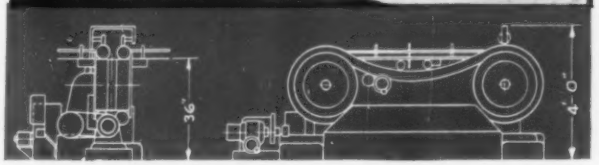

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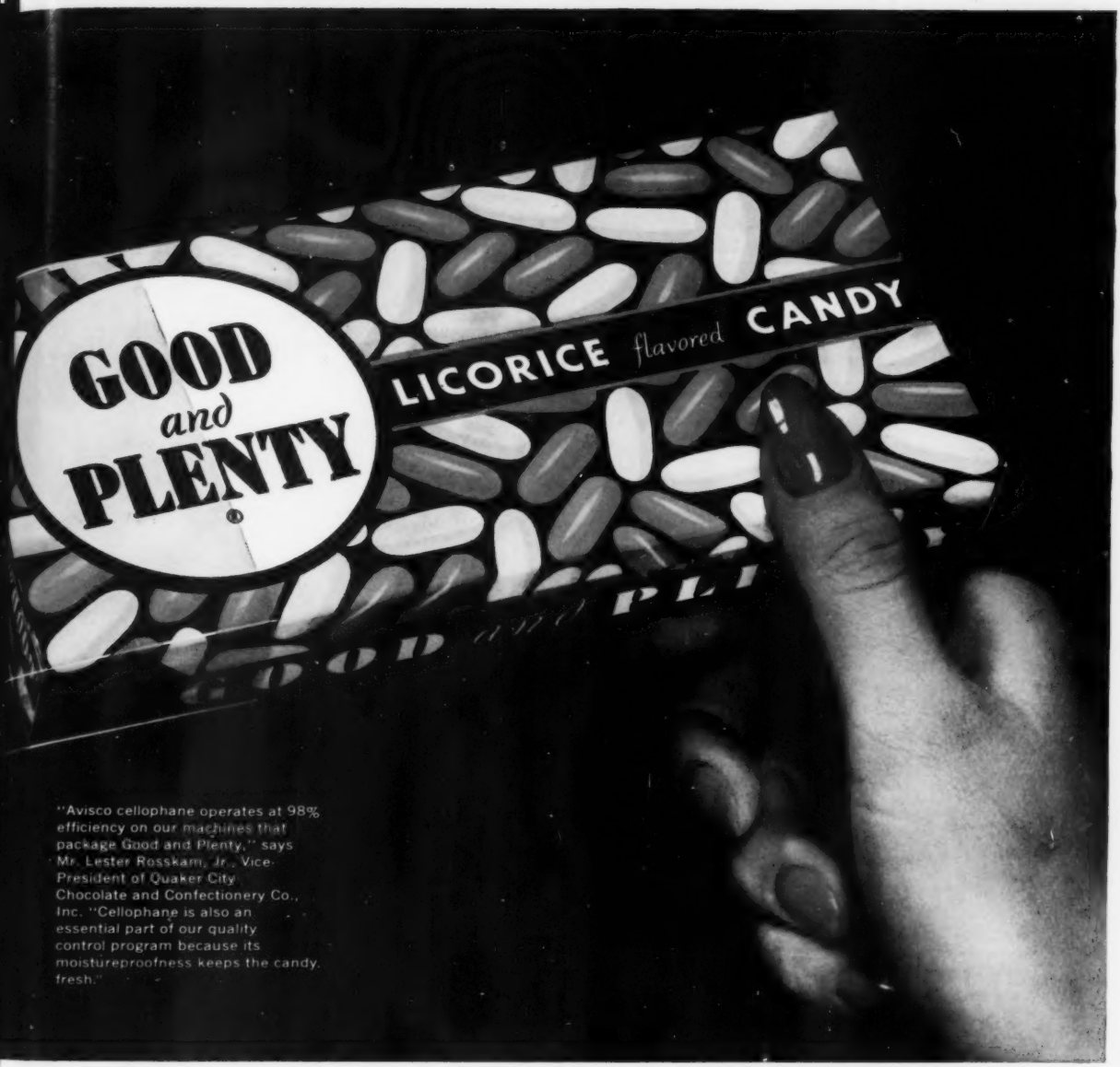
High speed machines at Regina Cigar Co. wrap Havana Palmas in Avisco cellophane. The gusset fold is simple because of cellophane's body. Packages feature a cellophane tear strip.

Even at machine gun speeds, Avisco cellophane forms perfectly on packaging machines. The flavor-retaining overwrap of Beeman's Gum is an example. Printed by Forbes Lithograph Co.



"Avisco cellophane operates at 98% efficiency on our machines that package Good and Plenty," says Mr. Lester Rosskam, Jr., Vice-President of Quaker City Chocolate and Confectionery Co., Inc. "Cellophane is also an essential part of our quality control program because its moistureproofness keeps the candy fresh."

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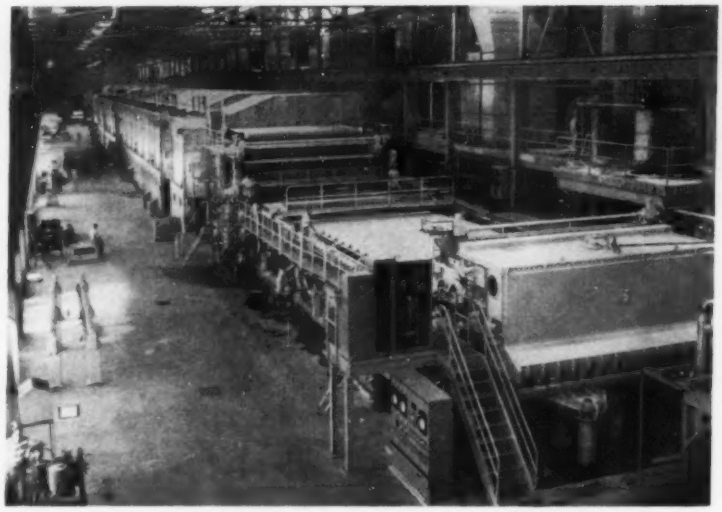
Riegel installs giant new bleached-paper and board machine

Riegel Paper Corp.'s "Carolina Belle," a new 236-in. Fourdrinier bleached-paper and board machine, is now in production at the company's Acme, N. C., plant. Reported to be the second largest machine of its type (more than 430 ft. in length), it becomes the largest with an on-machine coating unit designed specifically for such a machine, the company says. A second coater may be added soon to provide varied coating combinations. Capacity of the new equipment is more than 300 tons of paper per day, including high-grade paper for food packaging and for folding cartons. It will also produce special papers and liner board. When running a typical food board, Riegel reports, an 18-ft.-wide ribbon of the material comes off the machine's last calendar roll at 700 to 900 ft. per minute.

Among the Carolina Belle's cited engineering improvements are an electronic system for measuring, recording and controlling basis weight and caliper; a 90-roll dryer section for slow, even drying, and almost 100% stainless steel stock and water systems.



Mammoth "Carolina Belle" dwarfs workmen at Acme, N.C., plant.

The new machine is the latest step in the development of an integrated $50,000,000 installation at the Acme plant, which was built in 1951. The mill produces 550 tons of pulp per day, of which the Carolina Belle uses 200 tons. Although Riegel is converting only a small portion of its board now, the company reports that it may increase its conversion operations to as much as 50% of its total production. END

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- **EASY-FILL TOP**—Large 1⅞" friction plug.
- * **WAX-COATED INNER TUBE**—Special wax gives moisture protection and smoother pumping action.
- o **SPECIAL FELT INNER VALVE** — Allows easy passage of air during pumping action, yet effectively seals in powder.
- ▲ **PATENTED BELLOWS VALVE** — Positive operation—opens on back stroke to admit air into pumping chamber; closes on forward stroke, for efficient pumping action.

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Saran Resin F220 reduces gas permeability and moisture vapor transmission to a minimum . . . increases resistance to greases, oils, acids and many organic liquids and vapors. Here is the coating that gives packaging materials a heaping measure of new protective qualities.

Minimum coating gives maximum protection on polyethylene, cellophane, polyester film, aluminum foil. Saran Resin F220 is soluble in acetone . . . releases solvent readily . . . and is adaptable to a wide variety of coating operations.

Whether you manufacture or use packaging film, investigate saran resins and take advantage of these sales-making properties. Write to your nearest sales office of THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Dept. 2267B-1.

YOU CAN DEPEND ON DOW

Brilliant visual salesmanship with four colors on LATEX COATED boxboard

Sharp, clear printing like this on boxboard coated with Dow Latex increases food package sales appeal. You can take advantage of better printability, gloss, controlled ink hold-out and better wet rub resistance by specifying latex coated boxboard.

DOW

No. 5 in a series on latex coated boxboard

LATEX COATED

Notice the quality reproduction and attention to detail on this four-color reproduction printed on .015 pt. boxboard coated with Dow Latex by the air-knife process.

For fine quality reproduction, specify boxboard coated with Dow Latex

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Your advantages with Dow Latex begin with its lower cost . . . and include heavier coating weights, higher machine speeds, shorter drying time and broader applications.

For sharp, clear printing that means extra sales, use and specify Dow Latex coated boxboard. Complete information on the many advantages of using Dow Latex is available. Call the nearest Dow sales office or write THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Department 2160C.

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CORRUGATED booklet des styles desig of original stacking an

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TABULATING scribes a w and cuts ca ating speed Era Mfg. C

CHAIN CONV chure descri for handlin cans in ice tilleries, bott ment Corp.

CASE PACKE scribe a line ing 46-oz. a pack withou age product gineering C

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PACKAGE, LA TURE. 6-page pany's servi and producti skin and bu and wraps. I

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EQUIPMENT • SUPPLIES • SERVICES

STERILIZING EQUIPMENT. 11-page illustrated brochure describes this company's steam, dry heat, and gas sterilization equipment for use in the packaging of pharmaceutical products, foods, etc. Wilmot Castle Co. **(L-850)**

CORRUGATED BOXES. Illustrated 30-page booklet describes basic corrugated box styles designed to cope with the problems of original packing, handling, storage, stacking and loading. Hinde & Dauch. **(L-851)**

BULK WEIGHING SCALE. Catalog sheet describes a gravity-fed recording scale for the bulk weighing of dry and free-flowing as well as sluggish materials. Scale has unit capacity of 20 to 50 lbs., and gives from 1 to 6 weighings per min. Richardson Scale Co. **(L-852)**

TABULATING CARD PRESS. Data sheet describes a web-fed machine that prints and cuts cards to desired size at an operating speed of 250 cards per min. New Era Mfg. Co. **(L-853)**

CHAIN CONVEYOR. 5-page illustrated brochure describes a line of chain conveyors for handling cases, boxes, cartons and cans in ice cream plants, canneries, distilleries, bottling works, etc. Island Equipment Corp. **(L-854)**

CASE PACKER. Illustrated bulletins describe a line of case packers for packaging 46-oz. and No. 10 cans in single layer pack without rolling or bumping to damage product or container. Manitowoc Engineering Corp. **(L-855)**

"BOIL-IN-A-BAG" FILM. 4-page technical report discusses the cooking procedures for, and properties, fabrication, and packaging of, "Scotch Pak" polyester film, a film specially designed for heat-in-the-package food preparation. Minnesota Mining & Mfg. Co. **(L-856)**

PACKAGING MACHINES. 6-page illustrated brochure describes a machine that prints, packs and counts up to 40 packages per minute in 6 by 6-in. size; 60 per min. in 4 by 4-in. size; and 80 per minute in 3 by 3-in. size. American Broach Div., Sundstrand Machine Tool Co. **(L-857)**

PACKAGE, LABEL DESIGN AND MANUFACTURE. 6-page brochure describes this company's service for the planning, design, and production of folding boxes, displays, skin and bubble pack cards, and labels and wraps. F. M. Howell & Co. **(L-858)**

PRINTING PRESSES. 4-page illustrated brochure describes a line of flexographic and rotogravure presses that print in one or more colors on paper, foil, cellophane, polyethylene and other films, at speeds up to 400 ft. per minute. Geveke & Co., Inc. **(L-859)**

PACKAGING MACHINERY. 4-page illustrated folder describes this company's lines of fillers, check-weighers, carton filling and sealing machines, casers, contour wrapping machines, set-up paper box machinery, etc. FMC Packaging Machinery Div., Food Machinery & Chemical Corp. **(L-860)**

LABEL PRINTING MACHINES. 6-page illustrated brochure describes features of a line of label printing machines for use in shipping, receiving, production, inspection departments, tool rooms, general offices, etc. Weber Marking Systems, Div. of Weber Addressing Machine, Co., Inc. **(L-861)**

AUTOMATIC PACKAGING MACHINE. Illustrated data sheet describes features of a machine that packages up to 200 industrial and small parts per minute. Unit makes, fills, and cold-seals containers of self-adhering paper materials in one operation. Roto-Wrap Machine Corp. **(L-862)**

RIGID PLASTIC CONTAINERS. 4-page illustrated catalog lists available threaded, shell, shoulder, and beated containers for packaging medical products, cosmetics, jewelry, sporting goods, handi-crafts, food, etc. Also lists available metal and plastic closures. Lermer Plastics, Inc. **(L-863)**

WRAPPING MACHINE FEEDERS. Illustrated brochure describes a line of mechanical feeders for use with gluers and wrappers. Machines operate at speeds up to 40 per minute; handle work up to 17, 12 and 3½ inches. New Jersey Machine Corp. **(L-864)**

GUMMED PAPERS FOR LABELS. 164-page book illustrates wide variety of designs for stickers, labels and seals. Also tells how to print on gummed paper. Mid-States Gummed Paper Co. **(L-865)**

RIGID PLASTIC BOXES. 8-page illustrated catalog describes lines of clear and opaque, plain and decorated rigid plastic boxes available from this company. Harkin Affiliates Inc. **(L-866)**

ADHESIVES FOR BREWERS. File folder describes ice-proof and water-resistant bottle labeling, six-pack and case sealing adhesives available for use on carton stocks. H. B. Fuller Co. **(L-867)**

VACUUM AND DRAPE FORMING MACHINES. 12-page illustrated brochure describes machines with maximum mold sizes of 74 by 50 inches. Machine's depth draw is 14⅝ inches. Emhart Mfg. Co. **(L-868)**

WEIGHER-RECORDER. 4-page illustrated brochure describes machine that weighs; then records, key numbers, and dates the weights on sheets, tickets, or strips. Toledo Scale, Div. of Toledo Scale Corp. **(L-869)**

PROTECTIVE PACKAGING PADS. Series of catalog sheets describe pads of rubberized curled hair designed for the protection of fine china, typewriters, cameras, TV tubes, glass tubing, etc. Janesville Cotton Mills. **(L-870)**

WIRE STITCHING MACHINES. 28-page illustrated book describes lines of machines for simultaneously stitching tops and bottoms of filled cartons of rubber baseboard; assembling fiberboard boxes for packaging; bagging and labeling toys; etc. Acme Steel Co. **(L-871)**

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EQUIPMENT • SUPPLIES • SERVICES

LIFT TRUCK CARTON CLAMP ATTACHMENT. Catalog describes a line of carton clamps for palletless handling of unit loads of carton-packed products. The hydraulically operated clamps can be attached to any make or model lift truck. Little Giant Products Co., Inc. **(L-872)**

ELEVATOR CONVEYOR. Illustrated catalog sheet describes a machine for the rapid moving, elevating, lowering and transferral of fragile bulk loads, such as candy, coffee, frozen foods, glass, electronic parts, etc. Econ-O-Veyor Corp. **(L-873)**

FILLING AND LABELING EQUIPMENT. 10-page illustrated brochure describes lines of machines for vacuum filling, labeling, feeding, and combination filling and labeling. Biner-Ellison Machinery Co. **(L-874)**

ADHESIVES AND COATINGS. Series of technical data sheets describe adhesives for skin packaging, a laminating adhesive for Pliofilm to aluminum, release coatings for paper, etc. Chemical Div., The Borden Co. **(L-875)**

BOX BOTTOM STAPLER. Illustrated catalog sheet describes a box bottoming stapler for corrugated and solid fiber board. Machine uses wide-crown preformed staples in strips. Bostitch, Inc. **(L-876)**

WAXES. Folder describes advantages of "Parafflex" waxes for use in making breadwrappers, drinking cups, vegetable trays, folding cartons, wax paper, etc. Boler Petroleum Co. **(L-877)**

PACKAGING MACHINES FOR IRREGULAR SHAPED PRODUCTS. 4-page illustrated brochure describes equipment for film packaging irregular, round, oval or large regular shaped products. Amsco Packaging Machinery, Inc. **(L-878)**

AUTOMATED PACKAGE MACHINERY CONTROLS. Series of data sheets describe a filling machine control unit, a control that weighs and sorts packages into weight groups, and a control relay unit that can shut off a filling head when the preset weight has been reached. Avion Div., ACF Industries, Inc. **(L-879)**

CARBONATED SOFT DRINK CANS. 8-page technical study discusses problems involved in the canning of carbonated soft drinks. Takes up internal corrosion of containers, control and inspection procedures, etc. American Can Co. **(L-880)**

CUSTOM PAPER BAGS. 4-page illustrated brochure describes this company's facilities for supplying paper bags for frozen foods, powdered sugars, fertilizers, hydroscopic chemicals, spices, cleaning compounds, etc. American Bag and Paper Corp. **(L-881)**

ICE CREAM PACKAGING MACHINERY. Illustrated catalog describes cup-filling machine, automatic packaging machine for ½ gallon pails, a foot-operated capper, an air-operated stick dispenser, a utility table, a bag sealer, etc. Anderson Bros. Mfg. Co. **(L-882)**

PACKAGING SERVICE. 4-page brochure describes this company's contract packaging service for fasteners and other small parts. The packages are transparent and puncture resistant. Fastener Service Div., The American Packaging Corp. **(L-883)**

SEALING TAPES. Sample book contains gummed tapes in 10 colors. Tapes are non-curling, instant-sealing. Atlantic Gummed Paper Corp. **(L-884)**

PROTECTIVE PACKING. 4-page illustrated folder describes packing for miniature and sub-miniature tubes, capacitors, resistors, diodes and sepcial tubes. American Rondo Corp. **(L-885)**

CAPS AND LINERS. 8-page illustrated catalog describes available molded stock design and pour-out finish caps, private design caps and specialities, and stock liners. Glass and Closure Div., Armstrong Cork Co. **(L-886)**

STATIC ELIMINATING EQUIPMENT. 4-page illustrated brochure describes a line of static bars designed to simultaneously blow off dirt and neutralize static charges on both the dirt and the part being cleaned. Devices clean dust from plastic parts, plastic and paper sheets and films, etc. The Simco Co. **(L-887)**

BAG CLOSING MACHINES. 4-page illustrated brochure describes a coffee bag closing machine, a sealer-gluer bag closing machine, a continuous-motion master bag closing machine, and a double folding heat-sealing adjustable bag sealer. George H. Fry Co. **(L-888)**

TUBES, CLOSURES. 6-page brochure describes this company's available collapsible tubes, plastic closures and specialties, and custom molded tips and caps. Also lists stock specialty items. Wheeling Stamping Co. **(L-889)**

MECHANICAL SORTER. Catalog sheet describes a machine that gauges and sorts up to 300,000 machined parts, molded plastics, beads, beans, discs, pills, capsules, nuts, buttons, etc., per hour. U.S. Engineering Co. **(L-890)**

WEIGHER AND FILLER. Catalog sheet describes a motorless gravity flow automatic weighing and filling machine for free flowing materials. Machine's speed is from 18 to 20 weighings per min. Richardson Scale Co. **(L-891)**

SHIPPING SACKS. 11-page illustrated brochure describes a line of laminated textile shipping sacks designed for heavy duty industrial packaging. Chase Bag Co. **(L-892)**

FOLDING BOX GLUING MACHINE. 12-page illustrated brochure describes a Swiss machine with straight and cross delivery, and devices for breaking and folding the four creases to 180 degrees. Machine glues up to 100,000 boxes per hour. Thompson-National Press Co. **(L-893)**

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Soft drinks in paper

Addition of a foil layer to a paper and polyethylene tetrahedral container has resulted in the first use of this low-cost package by a major soft-drink bottling firm, Bireley's Div. of General Foods Corp. The

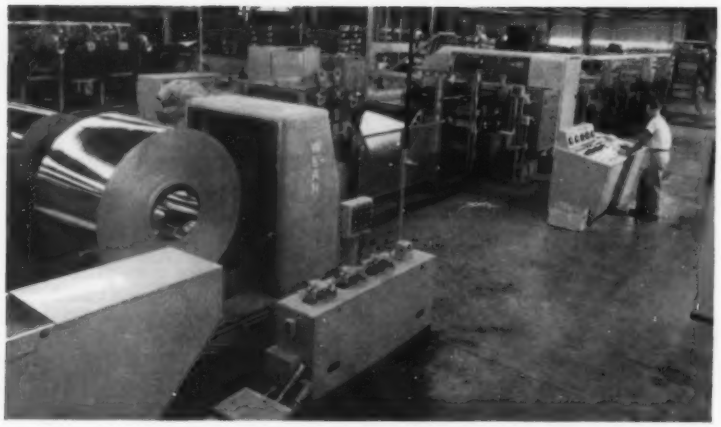
8-oz. container is being used for non-carbonated orange and grape drinks by a licensed bottler for distribution to schools, sports concessions and snack bars in the Oakland-San Francisco area.

In these applications, the paper package is economical, light in weight and easy of disposal after use. So outstanding has been its initial acceptance, according to company officials, that it is expected to spread soon to other product flavors and other Bireley's bottlers throughout the country. The container reportedly will compete with returnable glass bottles, as well as with metal cans.

The pyramid-shaped package and the machine that forms it were introduced in this country from Sweden several years ago. The package is formed from roll stock, filled and heat sealed into the unique shape in one continuous operation. It has gained acceptance in the U. S. for such refrigerated products as milk, ice cream and juices.

In this latest application, the Bireley package consists of a printed, bleached kraft board exterior, a laminated foil and a polyethylene coating. This combination creates a barrier material that is reported to be almost impervious to the transmission of oxygen and thus extends —almost indefinitely—the shelf life of soft drinks, which are held under refrigeration only intermittently. Printing is so arranged on the container that the consumer automatically holds the container with its upper notched corner properly positioned for easy opening.

SUPPLIES AND SERVICES: *"Tetra Pak" packaging material and machine by Crown Zellerbach Corp., 343 Sansome St., San Francisco.* END



Canco's new coil-processing plant

Completion of what American Can claims to be a major step toward reducing the cost of metal containers was marked recently at Hillside, N. J., where the company dedicated a 240,000 sq. ft. coil processing plant, last in a series of eight costing a total of $32 million. Prior to the opening of the first unit at Tampa 18 months earlier, all can makers bought tinplate in pre-cut sheets. Now the material is delivered to Canco in coils weighing up to 17,000 lbs. Coil-processing plants are equipped to cut the plate into sheets for transfer to adjoining or more distant can-making plants. Company executives view this development as a preliminary step to more complete integration that may eventually see such coil-processing units feed sheared plates or slitted coils directly into can-making lines. A 17,000-lb. coil produces approximately 173,000 bodies for 12-oz.-size beer cans. END

Fibre drums

[*Continued from page 91*]

All liquid-holding drums of this type have bungs in the top, but they are also lever-locked containers with fully removable lids—a fact that adds to their versatility. Equipment is available to pump drums or lift and tilt them for emptying.

The third type of "lined" drum is a fibre structure that serves as an overpack for a separate bottle or can. Here, the fibre merely adds rigidity and a protective barrier against shipping damage. Small drums ranging from 5- to 15-gal. are particularly large users of this type of lining and have been extensively used with polyethylene bottles and bags as well as glass and metal inner containers.

With the progress to date in new drum shapes, protective linings and higher manufacturing speeds added to the fibre-drum manufacturers' determination to push their product into new applications, the industry appears to show solid potential for growth.

Developments in polyethylene laminations, drum winding and im-

pregnating methods, and improved techniques of decoration have already greatly broadened use of these containers. But further research in construction, linings, fittings and handling equipment should soon bring forth even more functional and economical drums that may solve the problems of handling such difficult products as corrosive chemicals and hydrocarbon-based liquids that cannot now be shipped in fibre containers. END

Polyethylene standards

[Continued from page 101]

Values were established for normal clarity, only to distinguish it from high clarity, since the former's optical properties are seldom, if ever, significant or measured. Haze, 45-deg.-gloss and visual see-through tests were established for clarity, with the exception that the 45-deg. gloss test will soon be modified.

Another very troublesome property to define was ink adhesion. The subcommittee examined scores of tests, including many proprietary methods which have never been published. Final choice is a "disciplined" pressure-sensitive-tape test.

The problem of defining an adequate heat seal was less rigorous and a test method for heat seals on both "treated" and "untreated" polyethylene film was established.

Odor was another hard-to-pin-down property. After a considerable study, it was decided to write a precise method of testing for odor. Standards are to be agreed upon between buyer and seller, and the film held to such values.

Polyethylene film is used in many food and drug applications. In order to guarantee that film bearing the hallmark could be put safely to such usage, the specification contains the statement: "Films which are to be used for packaging food and drug products shall contain no materials objectionable to the Food & Drug Administration."

Final promulgation of the standard, with any significant changes adopted, will be announced in these pages and readers will be informed where they can obtain copies of the official standard. Inquiries meanwhile should be addressed to The Society of the Plastics Industry, 250 Park Ave., New York 17. END

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There's a great need for MODERN PACKAGING ENCYCLOPEDIAS to be used as reference and textbook material by students in university and other packaging courses.

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William C. Simms
EXECUTIVE EDITOR

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Fibre drum wins 'Best of Show'

Demonstrating the modern trend to lightweight shipping containers for even the heaviest industrial products is a special fibre drum, used to ship crankshafts for aircraft engines, which won the "Best of Show" award and the Harold Jackson Trophy at the recent National Industrial Packaging Handling and Shipping Show in Chicago, sponsored by the Society of Industrial Packaging & Materials Handling Engineers. The package, which also took first prize in the Military Packaging classification, was entered by Theodore Nicholson of the Curtiss-Wright Corp., Wright Aero Div., Wood Ridge, N. J.

The fibre drum, with a rubber-gasketed metal cover and lever-actuated locking band, contains a bottom cradle made from 12 disks of die-cut, double-faced corrugated and a second, similar cradle located half way up the drum. A convolute-wound kraft paper tube of 11-in. diameter surrounds the upper part of the crankshaft and extends from the upper cradle to the cover (see cut-away photo at left).

The crankshaft is protected from corrosion by "P 2 preservative" and Grade A paper that meets specification JAN-B-121.

The new package occupies 8 cu. ft. of space and can be filled in only 15 minutes. END

WVTR of oriented polystyrene

[*Continued from page 123*]

mined for 1 mil, 3 mil, 5 mil, 10 mil, 15 mil and 20 mil Polyflex[2] 100 oriented polystyrene film. These data, shown in Table I, indicate that the water-vapor rate is a hyperbolic function of the film thickness. The method of least squares was applied and the equation which best fits these data was found to be:

$$Y = \frac{9.5}{X+1.5}$$

Where Y = the WVTR in gms./100 in.^{2}/24 hrs.,
X = film thickness in mils,
9.5 and 1.5 = constants.

Figure 1 is a graphical presentation of these data. From Figure 1 it can be seen that 1-mil Polyflex has a water-vapor transmission rate of 4.4 gms./mil. Comparing the data on a per-mil basis, 2-mil film has a rate of 6.2 gms./mil; 5-mil sheet, 7.0 gms./mil; 10-mil sheet, 7.5 gms./mil, and 20-mil sheet, 10 gms./mil thickness. Therefore, on a per-mil basis the thinner-gauge films are the most efficient.

[2]Registered trademark of Plax Corp.

Following is a ranking of some of the common packaging films by water-vapor transmission rates:

0.001 in. saran-type film	(25
0.001 in. high-density polyethylene film	0.40
0.001 in. saran-coated cellophane	0.5-0.9
0.001 in. low-density polyethylene	1.2
0.001 in. Polyflex 100	4.4
0.001 in. cellulose acetate cast film	90.0

It can be seen that 1-mil Polyflex has higher water-vapor permeability than many other films. However, there are many food products—such as beef, celery, lettuce, potatoes, peas, spinach, tomatoes, cauliflower and corn—which benefit from the "breathing" action of this higher permeability.

In the thicker-gauge film range, 5-mil Polyflex has the same water-vapor transfer as 1-mil low-density polyethylene, and 7.5 and 10 mil Polyflex are equivalent to the 1-mil saran-coated cellophanes. END

How to package-merchandise your products at retail... and Save Money Doing it!

Low Cost Give-away Bag Merchandises Manufacturer's Equipment—Promotes Radio-TV Tube Sales

U-TEST-M Self-service tube testing equipment has found a welcome home in drug, hardware, variety and radio stores — yes, even in super markets. To describe how to diagnose "ailing" tubes the manufacturer uses a low cost printed Thilco bag to carry the complete message. These bags are furnished the retailers for general usage as carry-out sacks for sundry items. The bag serves a 3-fold purpose. 1 — It advertises the U-TEST-M service the dealer offers. 2 — It eliminates need for costly insert instruction brochures. 3—It establishes promotional good-will with the retailer and helps him sell more new tubes.

Thilco Print-Decorated Bags are the solution

More and more, manufacturers of products for resale turn to Thilco bags as a better, lower cost method of packaging and/or as an economical means for merchandising their products to the dealer and consumer.

Important savings in promotion dollars are effected because PRINT-DECORATED Thilco bags cost less than many other forms of merchandising — are often more effective — serve a useful, functional purpose and provide *specific* protection if needed. You can get just the bag you want from Thilco — from low cost carry-out sacks to a wide range of duplex style *protective* package bags — All, Print Decorated, of course, to your most exacting ideas. Write for details.

Producers of LAS-STIK, a wax treated polishing cloth prevent stain-thru of package by using a Thilco tin-tied, glassine lined, flat style kraft bag — PRINT DECORATED with directions in eye appealing red and blue.

Consumer Glue Co. utilizes Thilco duplex kraft bags for packaging these products for resale. Each bag is attractively PRINT-DECORATED with brand name and complete directions for usage.

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New aluminum center

Reynolds Metals Co.'s new center for aluminum packaging research and production in Richmond, Va., is now in full operation. The new installations include a modern building to house the company's styling and design services, a machinery development center and a pilot research plant for developing flexible and semi-rigid packages. The sales, marketing, product, advertising and other departments of the company's packaging division moved into the new $11.5-million general office building last June from Louisville. Already located in Richmond were the packaging research laboratory, a foil rolling plant, container manufacturing facilities and a foil printing and carton manufacturing plant.

The quarter-million-dollar pilot research plant is believed to be the only facility of its kind in the packaging industry. It represents an expansion of the Reynolds foil and printing research laboratories, which operate under the general direction of A. Irving Totten.

The plant has pilot equipment for developing new packaging materials and processes, including a four-color gravure press, a plastic extruder for extrusion coating and laminating work, a one-color gravure press, coating machine, Reyseal machine, laminators and spoolers.

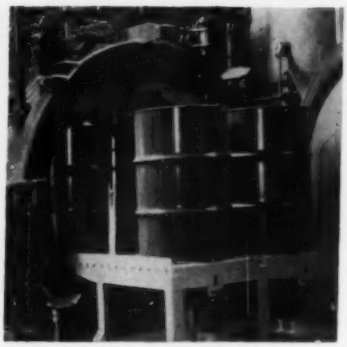
Machines for closing and handling foil containers at new center.

The machinery development center is housed in a large building which accommodates various sections of the product development department, directed by Heinz V. Menking. Here, William E. Cheeley, director of packaging and consumer product development, and a staff of project directors and engineers, in cooperation with top machinery manufacturers, develop new machines for handling various types of aluminum packaging.

The new quarter-million-dollar styling and design building houses a staff of 38 specialists. END

Bulk foods in drums

Greater economy and quality are reported available to users of bulk liquid and semi-liquid food ingredients with a new pre-sterilizing and aseptic packaging technique, which permits canners to put heat-processed foods in 55-gal. drums without concern for the problems of slow heating and cooling that attend conventional packaging techniques. The first installation is at Thornton Canning Co., Thornton, Calif.



Vacuum chamber handles four of the special 55-gal. drums at once.

Key to this new packaging method is a special drum with double-seamed heads and tinplated on the inside. Enamel coatings are available for particularly corrosive foods. The airtight containers are reported to hold a vacuum as high as 28 in. for more than a year. Of particular advantage to users is the fact that one drum replaces about 70 of the generally used smaller containers.

The two-part packaging system incorporates a pre-heater and flash cooler to sterilize the food product without flavor loss and a vacuum chamber (see photo) where four of the large drums are steam sterilized and filled at one time.

SUPPLIES AND SERVICES: *"Sterile Pack" drums by Rheem Mfg. Co., 7600 Kedzie Ave., Chicago. Sterilizer and vacuum filler by Thermovac, Inc., Stockton, Calif.* END

CORRECTION: In the article "First Aluminum Canned Beer" in the September issue, manufacture of the machine which assembles four six-packs in a 24-can corrugated sleeve was erroneously credited to the Andre Paper Box Co. The machine is manufactured by the Currie Packaging Co., 217 Fairwood Ave., Charlotte 3, N.C., and is identifiable as their Model 21 Case Packer. We regret the error.

Shining Success in Holiday and Gift Packaging

This season's most distinctive, most effective cartons owe much of their success to Lowe's amazing No. 90 Ultragloss. Taking a tip from that fact, many manufacturers are already considering this matchless glazed finish boxboard for next season's holiday and gift packaging needs. No other carton stock equals its dazzling gloss, its folding qualities, or its ability to convey an impression of quality and modernity at a glance. No. 90 Ultragloss is now also made in lighter grades, for use in dozens of types of advertising and sales promotion. Write for samples, in white or colors, in carton or card weights.

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Lining and coating

[*Continued from page 122*]

indicate that the coating is ineffective.

In order to maintain cost control of a basically high-cost package item, the desired quality-control method, of course, would be one of non-destructive inspection; unfortunately, however, to date most of the success in controlling quality has been of the destructive type. Again, with good statistical methods the percentage of requirements may be lowered to a point of economics when considering all other inspection methods and costs involved.

Figure 4 illustrates a machine developed by the Interchemical Co. which measures adherence of coating to metal or plastic surfaces.

The Interchemical adhesion meter is designed to measure the stripping force in dynes required to remove a paint film from the surface of a test panel. The test panel is moved slowly under a hard, ivory-cutting tool 4 mm. wide. The ivory tool is held by a lever arm which is weighted to hold the cutting edge firmly against the metal surface of the panel. The lever arm, mounted on a practically frictionless roller bearing, is connected to a weighted pendulum, causing it to swing outward to an extent proportional to the force being utilized in stripping the 4-mm. band of paint film. The amount of pendulum swing is read on the Ames gauge operating through an accurately machined cam attached to the pendulum at its axis.

Further work

It is apparent that the lining or coating with all of its involved processing must be practically tailor-made to suit a particular container and product.

A number of new developments have been under study for improvement of the physical properties of polyethylene. The results to date are very limited and scattered, with too many variables to form any firm conclusions.

The General Electric method of electronic bombing of polyethylene has shown much improvement in its physical properties, but does not seem to give too much evidence of improving the physical properties with regard to barrier value of essential-oil transmission. But the Battelle Memorial Institute and the General Electric laboratories are actively pursuing this problem and have hopes of success.

Experiments have been going on from the standpoint of molding directly with the polyethylene powders a percentage of the essential-oil that will be in the product to be contained in the package. The studies have been very limited to date and no indications or conclusions can be drawn as yet. This process may eliminate the necessity for the lining or coating, but also may prove to have economical limitations.

Studies are going on with several new plastic materials, such as polypropylene, Delrin, linear polyethylene, Penton, etc., for determining the essential-oil barrier properties. The establishment of wall thickness, economics, processes and other test-result factors are still too limited to form any conclusions. Other plastic materials also are under study by several large plastic firms to try to overcome these barrier-property shortcomings.

Investigation by several essential-oil manufacturing firms is under way

in an attempt to reduce essential-oil transmission through plastics by formulation. The principle of the formulation is to have additives in the vehicle which saturate the plastic to form a barrier by a combination of chemical and physical change. This work is still in the very early stages; there are no firm indications as yet.

Meanwhile, the development of good coatings and linings, which have already started to appear in polyethylene containers, will certainly expand the plastic packaging field. It is also anticipated that machinery manufacturers will keep abreast of these developments so that commercial economies may be realized.

References

1. Du Pont, E. I., de Nemours & Co., Inc., Wilmington, Del., intercompany correspondence.
2. Fieser, Louis F. and Mary F., *Organic Chemistry*, D. C. Heath & Co., Boston (1944).
3. Von Fischer, William, and Bobalek, Edward, *Organic Protective Coatings*, Reinhold Publishing Corp., New York (1953).
4. Interchemical Corp., New York, intercompany correspondence.

END

Basic research center

Opening of a new, $5 million industrial chemical research center by W. R. Grace & Co. at Clarksville, Md., which will bring together 250 scientists and technicians in 96,000 sq. ft. of modern laboratory space, underscores once again the complex effort and expense entailed in development of new plastic packaging materials.

A significant portion of this facility will be devoted to basic studies of polymer chemistry.

The 150-acre site, located within 20 miles of both Baltimore and Washington, D. C., was selected because of its proximity to other public and private research facilities and because it provides the necessary space for future expansion.

The present two main buildings, completed in September, contain 64 laboratories and a wealth of electronic and other types of special equipment. It is estimated that centralizing of the research activities will save the company more than $500,000 per year.

END

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The new Modern Packaging Encyclopedia Issue is going to press and will soon be on its way to you — as part of your regular magazine subscription!

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America's mass packagers use the Encyclopedia Issue as their standard reference book. The only annual in the industry, it's used day-in, day-out — all year long. No wonder it's such an ideal medium for your advertising message!

Packaging machinery on permanent display in Chicago

What is claimed to be the first permanent packaging machinery display in the United States has been established by Diederichs & Griffin Co., distributors of packaging machinery, at 6215 W. Touhy Ave., Chicago.

Set up in a newly erected building, which contains offices and exhibit room, the display offers manufacturers an opportunity to see their products run on a machine before going to the expense of buying and installing equipment.

Diederichs & Griffin reasoned that the demand for packaging, resulting from the advent of self-service selling, naturally resulted in an equally heavy demand for automatic packaging machinery. Until now, exhibits of packaging machinery could be seen only a few days a year at a national packaging exposition. The company, therefore, constructed its present new facilities, where more than $100,000 worth of packaging machinery is exhibited in operation. Manufacturers with packaging problems may now bring a product to the display rooms, where they can see it run automatically, simulating what he could be doing in his own plant.

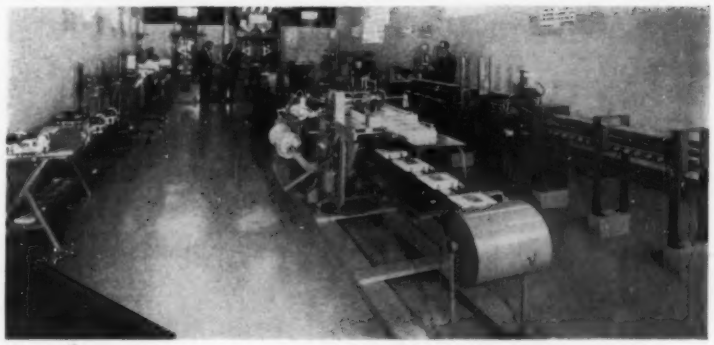

Exhibit room of new permanent display for packaging machinery.

Packaging machinery and equipment on display includes:

Automatic cellophane and polyethylene overwrapping machines, automatic feeding, bag-forming and filling machines for cellophane and polyethylene, by Hayssen Mfg. Co.

Thermoplastic heat sealers and automatic labelers by Doughboy Industries, Inc.

Automatic product accumulators, case openers, packers and sealers by Schroeder Machines Corp.

Automatic high-speed polyethylene bag maker and sheeter by Lectr-Omatic Devices, Inc.

Hardware counters, feeders and form and fill machine by Brown Filling Machine Co., Inc.

Skin and blister packaging, industrial parts and military packaging machine by Product Packaging Engineering.

Multiple-purpose conveyors by Union Steel Products Co. END

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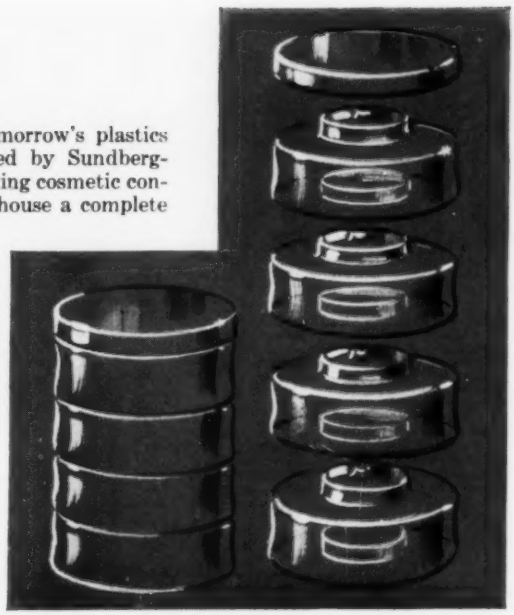
Here's an idea for tomorrow's plastics packaging as conceived by Sundberg-Ferar. This set of stacking cosmetic containers is designed to house a complete line of feminine beauty accessories in paste, powder, liquid, and cream form. Hi-fax high-density polyethylene provides the needed combination of properties for such visionary designs as this—it is virtually unbreakable, lightweight, and rigid, even in thin-walled sections.



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FOR SALE—1 4-COLOR WOLVERINE Hydro Printer under two years old, 36" PW—complete with flying splice, web guides, positive moisture control for cellophane and tension control for polyethylene. Press presently operating everyday. Can be released for delivery Nov. 10. Price, $23,000. Cello-Vision Corp., 137 E. Island Ave., Mpls., Minn.

FOR SALE—ONE (1) TWO-COLOR Markem Dial Press. Original cost $8,500. Slightly used. $4,000. One (1) one-color Markem Dial Press. Original cost $6,500. Slightly used. $3,000. Three (3) Arnold Presses, 1958 Models. Original cost $6,000 without index head. $7,750 with index head. Will take substantial reduction from original cost. All machines guaranteed to be in perfect working condition. Suitable for side-printing on containers, and also for printing covers. Reply Box 980, Modern Packaging.

FOR SALE—1 SIDE WELD Polyethylene Bag Machine. Will make bags, maximum 24" x 24". All types side weld bags, including flip-close, bottom gusseted, etc. at high speed. Price $5,000. Can be seen in operation. Available for immediate delivery. Write Clear Bag Co., 137 E. Island Ave., Mpls., Minn.

R.C.A. ELECTRONIC METAL DETECTOR—And accessory equipment—like new 46 x 15 inches—27 inch inspection area Detects all metals 110-120 volts 50-60 cycles 140 watts. Cost $2,200 new. Selling at big discount. Write Minnesota Artistic Prod. 200 4th St. S. E., Mpls, Minn. Ph. Federal 8-6812.

FOR SALE—1 SIMPLEX FOLD Over Bottom Cellophane Bag Machine like new. Used very little. Complete with electric eye and formers. Model No. 4. Will make gusseted or square bags, sizes up to 12" wide x 21" long. Can be seen in operation. Available for immediate delivery. Price $1,000. Clear Bag Co., 137 E. Island Ave., Mpls., Minn.

Machinery Wanted

WANTED—STOKES & SMITH MODEL BS, double clutch auger feed, pillow package, platen head seal. State age, condition, serial number and price. Reply Box 976, Modern Packaging.

WANTED—FOUR COLOR FLEXOGRAPHIC tail-end printer. Pouch machine. Cellophane crimp seal bag machine. Cellophane heat seal turn-up bottom bag machine. Reply P.O. Box 1046, Station "C", Toronto 3, Can.

WANTED—CAPEM OR SIMILAR make automatic screw capping machine for 6 oz. to ½ gallon jars, cap sizes 53, 58, 63, 70 and 75 m/m. Speed of 70 to 80 per minute required and if possible stainless steel construction for brine packs. Reply Box 979, Modern Packaging.

Materials Wanted

WANTED—POLYETHYLENE AND BUTYRATE (Kodapak II) Scrap Blister Pack and Trim. Also: Acetate, Hi-Impact and other types of Plastic Scrap. Claude P. Bamberger, Inc., One Mount Vernon Street, Ridgefield Park, N.J. Telephone: HUbbard 9-5330.

Help Wanted

CONSULTING ENGINEER—with technical knowledge of manufacture of base papers for masking tape. Reply Box 985, Modern Packaging.

FLEXIBLE PACKAGING SALESMAN—Metropolitan New York converter and printer of complete line of cellophane and polyethylene and other packaging films has opening—to cover existing territory in Eastern Pennsylvania. Must have sales experience in flexible packaging. Minimum starting at $10,000 depending on past experience. Replies confidential. Box 971, Modern Packaging.

UNUSUAL SALES OPPORTUNITY—Paper converter has opening for salesman with knowledge of Gravure Printing and a minimum of five years experience in selling packaging materials, gift wrap, box wrap and other printed papers. Salary plus profit-sharing bonus. Excellent benefits. Growth company. Reply with resume of training and experience, Box 986, Modern Packaging.

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WANTED—SIDE-LINE SALESMAN—folding boxes, folders, cards, etc. Fine color work. Eastern area. Have an economical specialty of in-line protective coating and printing food-product items. Reply Box 983, Modern Packaging.

WANTED—MANUFACTURERS representative to sell packaging equipment in Missouri, Iowa and Kansas, for a nationally known manufacturer. Give a list of manufacturers you now represent and territory presently covered. Box 982, Modern Packaging.

PACKAGING ENGINEER—We need a creative carton designer with experience in the structural design of folding cartons. If you have such ability with a record of demonstration in this field, you will find an unusual opportunity of associating with us. We are an established organization of many years in the New England area. Write stating what you have done in the past and what you would do for us. State salary. Reply Box 974, Modern Packaging.

INDUSTRIAL SALES of dispensing devices to drug, cosmetic, chem. specialties and food industries in NE area. Salary $10,000 plus incentive and expenses. Age 28-35. 5 to 10 years sales experience. Opportunity for creative work in small, growing company. Resumes to Box 987, Modern Packaging.

WANTED SALES ENGINEER—Leading manufacturer of packinging equipment has opening for sales engineer in New York and surrounding territory. Salary, expenses, and a bonus paid. Give qualifications, availability and salary expected. Reply Box 981, Modern Packaging.

EXPERIENCED SALESMAN WANTED—To cover New England territory for long established distributors of glass and plastic containers and closures. Satisfactory salary arrangement. Must have car. Good prospects for advancement to executive position commensurate with ability. References exchanged. Reply Box 977, Modern Packaging.

PROJECT ENGINEER—Leading manufacturer of folding cartons offers unusual opportunity for man with creative ability. This man must have a strong background in the structural design of folding cartons as well as in cartoning equipment and methods. This is an excellent chance to associate with a top notch company in the New England area. Write stating complete personal history and salary desired. Reply Box 975, Modern Packaging.

SALES DISTRIBUTORS WANTED—Progressive Midwestern Extruder-Converter of polyethylene films wants increased distribution of bags and liners through paper merchants or packaging specialists in most areas of Midwest, South, and Southwest. Many new features such as specialty printing being added to solid line. Experience selling this product essential. Established business or contacts with food and industrial accounts desirable. R. L. Stahl, Plastic Packaging Co., 2035 W. Charleston St., Chicago 47, Ill.

FINISHING DEPARTMENT SUPERVISOR—Large paperboard company with national distribution is seeking above average technician to supervise finishing operation in their midwestern folding carton plant. Applicants must have considerable folding carton experience and technical knowledge of all phases related to gluing machine operations in conjunction with supervisory ability. Salary commensurate with ability. In reply, send complete resume of background and working experience. We will consider only the top men in this field. Reply Box 978, Modern Packaging.

Situation Wanted

PACKAGING ENGINEER—Thoroughly experienced in packaging line layouts, specification sheet writing, cost breakdown, study of manufacturing operations, contacting and advising outside vendors on package design, investigation and purchasing of equipment. Have done work for the paper, soft drink, pharmaceutical, chemical, feed, soap, electronic and many other trades. Reply Box 984, Modern Packaging.

Miscellaneous

LINES WANTED—MANUFACTURERS' representative desires connection with dependable, aggressive manufacturer or converter. Have had fifteen successful years experience in sales, promotion and management as a paper jobber. Well known throughout Western N.Y. terr. Write C. Philip Mugler Co., Orchard Park, N.Y.

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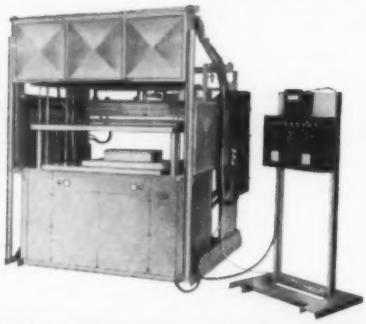

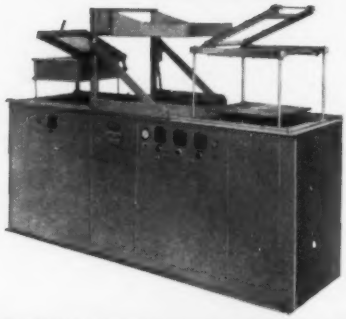

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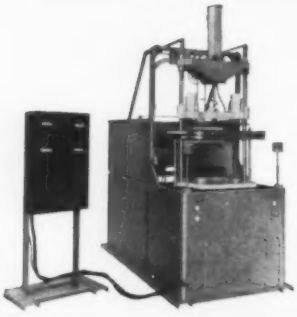

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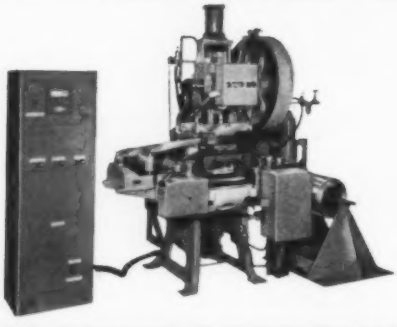

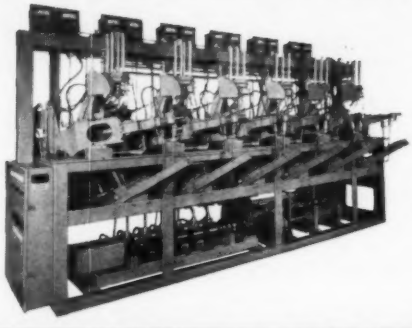

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